products that think®

A collection of the most advanced micro-electronic consumer products.

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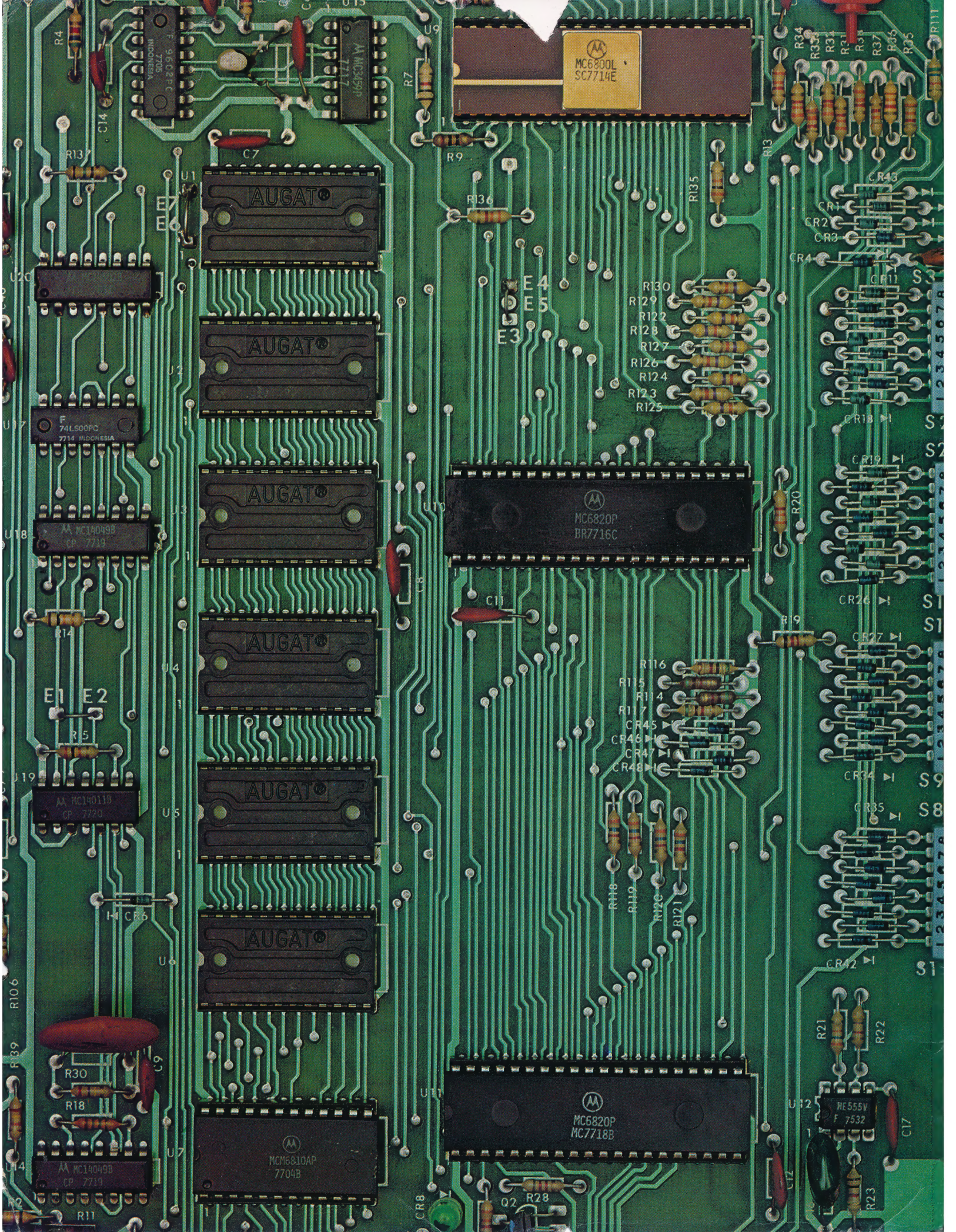
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JS&A NATIONAL SALES GROUP®

Dear Customer:

This catalog will someday become a collector's item. It represents the start of a new revolution in micro-electronic technology.

Our company has been a pioneer in this industry, and our products in this issue represent the finest selection we have ever offered in the history of our company.

You'll read about a few of the new trends in electronics, namely in computers, telephones, and in television conveniences, and many of our products are being offered to you before they will be available to the general public.

We are presenting some products a few months before we actually receive them, but we felt that they were so important, we wanted you to know about them before our national introductions. Other products developed exclusively for us and offered only to JS&A customers are being shown in this catalog for the first time.

The printed circuit board shown to the left is a good example of how far technology has advanced in just a few short years. This device would have cost over a million dollars to duplicate ten years ago. Today, it represents a fraction of the selling price of the Bally pinball machine where it is used. This same technology is now found in a variety of consumer products.

The Home Library Computer is a good example of this advanced technology. I have used one for the past few months and have seen my family enjoy its many programs. I have seen my children's math proficiency increase. We use the built-in electronic calculator to balance our checkbook, and our whole family gets together to play the many games. It's also the hit of the neighborhood. Now I don't have to find out where my children are during the week; they're usually at home with the neighbors' children playing our Bally computer.

Look at the JS&A Jogging Computer on page four. I have personally owned just about every adult toy designed to encourage exercise—items such as bicycles, treadmills and slant boards. But the new Jogging Computer has finally given me a way of exercising while accurately measuring my progress, without using a large piece of exercise equipment. I now feel much better and am enjoying the benefits of jogging in the privacy of my home during any weather. I'll be in great shape come summer.

Take a look at the Sensor 440 digital watch. We now have a lady's version which, together with our men's model, makes a great combination gift. The Sensor 440 is probably the finest digital watch you can buy today. It was introduced as being years ahead of other watches in technology and style, and today it remains the finest—proven by thousands of Sensor owners. It's the nation's largest selling digital watch for over $100 and the only digital with a 5-year warranty.

We offer a 30 day trial period on every electronic product you purchase, so you have the advantage of personally using it in your home or office under your everyday conditions. And if, for any reason, you wish to return an item, we will still consider you one of our good customers, and we will refund your full purchase price including the postage and handling charges indicated with each item. There is no sales tax for residents outside Illinois—also a big savings.

We also pride ourselves on our low prices and the value we provide our customers. By selling directly to you through the mail, we save on showroom costs and extensive overhead and can pass these savings on to you.

We work hard to make a fair profit, as would any company, but we also invest a great deal of that profit into the most elaborate systems to provide the finest customer service. Our large computer and our new Kodak computerized micro-filming system give us immediate access to information while our customers are on the phone. This personal service often amazes people when we can recall a piece of correspondence and all the details of an order in just a few seconds. We also care a great deal about our employees and their families, and this concern is often felt by our customers. We do care.

JS&A has the distinction of introducing more space-age products than any other company in the United States. Our pioneering efforts have built our company during the past decade into a substantial organization—always dedicated to our customers and their satisfaction.

Again, we appreciate your interest in space-age technology and urge you to join the micro-electronic revolution.

Sincerely,
JS&A National Sales Group

W. Mitchell

William Mitchell

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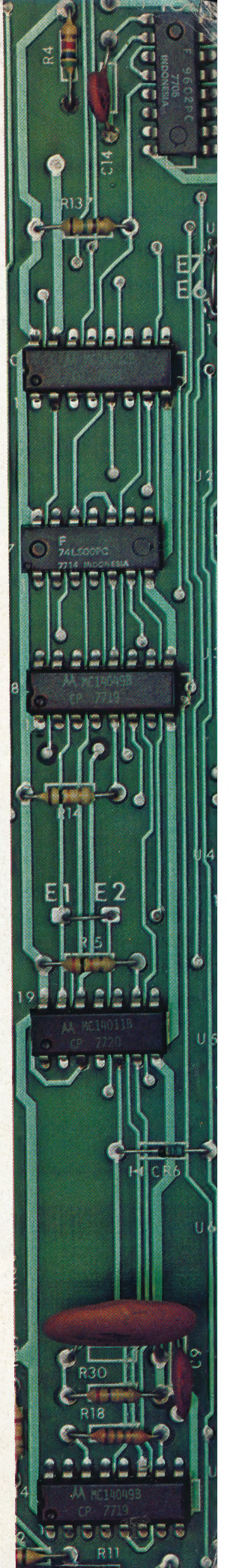

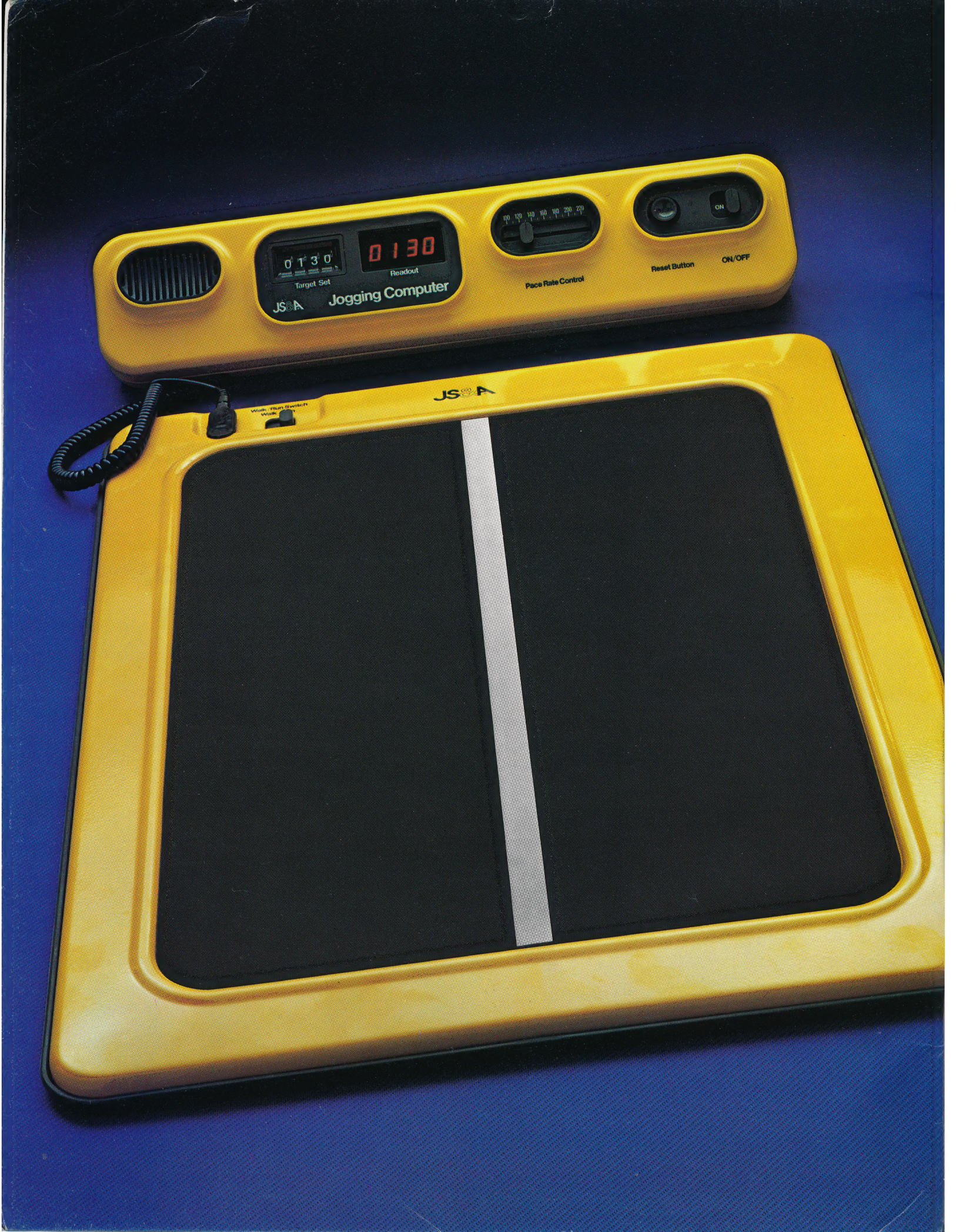
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JS&A
Jogging Computer
Pace Rate Control
Reset Button
ON/OFF
ON
Walk/Run Switch
Walk
JS&A

Jogging Computer

Make jogging fun in the privacy of your home with a new space-age indoor exercise system.

It's a fact. You reach your physical peak at age 25 and your mental peak at age 40. From then on it's downhill. But it needn't be. A 50 year old who exercises regularly can be healthier and in better physical shape than the average 25 year old.

When you're physically healthy, you are alert and better able to handle stress. You are better motivated and just plain happier. Jogging can keep you in good physical shape.

THE ADVANTAGES OF JOGGING

Jogging as a regular exercise has gained in popularity because it does three things for you: 1) It improves the functioning of the heart, lungs, blood vessels and lymph glands, 2) It helps control your weight without resorting to starvation diets, and 3) It is one of the few safe, strenuous exercises that creates the exertion necessary for good physical conditioning.

A NEW JOGGING COMPUTER

There is now a new, fun way to jog. The new JS&A Computer is a solid-state system that lets you jog in place in the comfort of your own home. It's fun, easy to use and convenient.

You simply set the distance and pace you wish to run and press the start button. An audible beep tone sounds, and you jog in place to its rhythm. Each stride is registered on a large LED read-out in the control unit, so you can see how far you've run.

You jog on a large pad with sensors which register each stride. The pad is designed to feel like grass or soft earth, so you can run either barefooted or with gym shoes. The idea is to gradually increase your distance and speed each day to build up your endurance.

Getting yourself to start jogging is often the hardest step. That is why the JS&A Jogging Computer is an ideal system for both the beginner and the experienced jogger.

FOR THE BEGINNER

The first time you step on the Jogging Computer, you run at a pre-selected pace and distance for approximately five minutes. (A chart will show you which speed to select based on your sex and age.) You then take your pulse rate for one minute by touching your wrist. The pulse/rate chart determines the settings and distance you should run the next time you jog.

You could be in poor, average or good shape, and this simple five minute test will accurately tell you. Start the jogger at the distance indicated on the chart, and gradually build up a little each day. In just one week, you'll notice the difference, feel great, have greater endurance, and you won't tire as easily. That is what's so nice about the system—how easily and quickly it puts you into better shape.

FOR THE EXPERIENCED

If you jog regularly, you know the many benefits of jogging. But you also know the disadvantages—all overcome by owning a JS&A Jogging Computer. For example:

Forget about the ritual You wake up early, drive to your favorite indoor track, change clothes, and you're ready to run. With the Jogging Computer, just step out of bed and start running. The time you save in preparing to jog can be substantial.

Forget about the boredom Running around a track can be quite boring. And if you count laps, how many times have you lost your count? With the Jogging Computer, you can forget about counting, as the unit does it automatically for you. You can concentrate on problems or take flights of fancy—all while you strenuously exercise.

Forget about the weather Even in summer, there are days when you can't jog outdoors. And in a daily exercise program, you must resort to the indoor track. Not so with the Jogging Computer. It's always there when you need it—portable and ready to operate.

Forget about jogger's heel If you've run on indoor tracks, you know the pain of jogger's heel caused by leaning in around those curves. Jogging in place is easier on your whole body and eliminates this common jogging problem.

BRING IT ANYWHERE

The Jogging Computer is powered by four "C" cell batteries and requires no AC power so it goes anywhere—on your patio, in the garage or basement, or at your office. The control unit can be propped up with its built-in easel or placed on a wall using the six foot expansion cord. It's portable, so after you've run a few miles, just turn it off and put it away. There's no large exercise device to take up space.

QUALITY THROUGHOUT

The JS&A Jogging Computer is all solid-state, and the 17"x 22" pad was pre-tested to take years of constant, hard pounding under all conditions. Service should never be required, but if anything ever does go wrong, JS&A's service-by-mail center will have it repaired and back to you in a matter of days. Be assured that we stand solidly behind our product's quality, construction and design. JS&A is America's largest single source of space-age products. We've been in business over a decade—further assurance that your investment is protected.

We suggest that you order the JS&A Jogging Computer and use it for 30 days. Jog each day when you get up in the morning or before dinner. Enjoy the thrill of feeling your endurance build. Experience the convenience and fun. See how much better you feel and how much sharper you think. Then after 30 days, measure your progress. If you don't find the JS&A indoor jogger a convenient and fun way to stay trim and healthy, then return your unit for a complete and full refund including the $3.00 charge for postage and handling. You can't lose.

Simply send us your check for **$149.95** plus $3.00 postage and handling or credit card buyers may call our toll-free number. By return mail, we will send you the complete Jogging Computer system with instructions, charts, personal score card and a one year limited warranty.

Start today on an organized physical fitness program using the latest in space-age technology. Order your JS&A Jogging Computer at no obligation today.

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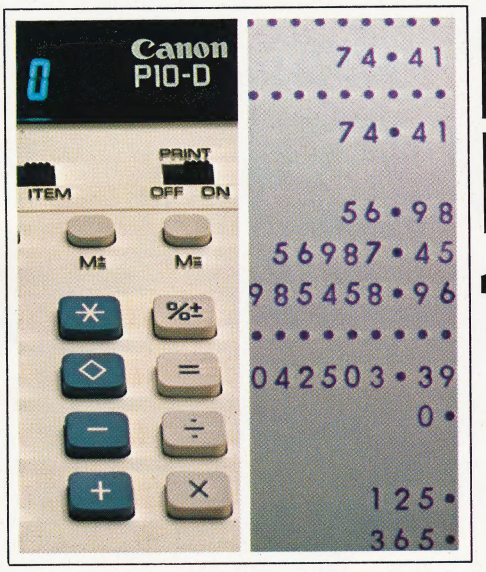


Printer Break-through

A new 10-digit display calculator with the world's first dual-element integrated printing head will revolutionize the printing calculator.

Hats off to IBM. Their single-element typing system did away with typewriter keys and started a new technology.

The new Canon P10-D printing calculator starts another new technology. Their dual-element printing system does away with the standard printing head which required a separate disc for each column. The Canon has only two discs—one with digits and the other with symbols.

The P10-D head weighs only ½ ounce compared to 31 ounces in a typical printing head. Its motor weighs only nine ounces—again much less than the heavier conventional motors required to drive larger heads. The Canon motor is smaller, lighter and more efficient because it moves less weight.

THE MOST EFFICIENT SYSTEM

The printing head is controlled by an LSI (large-scale integrated circuit). As you press a key, a pulse is generated from this circuit and sent to the motor which does two things: 1) positions the two discs to print the numbers or symbols and 2) glides the numeric disc across the ten column width of the paper.

Conventional printers print from metal discs through thick fabric ribbon onto paper. The Canon system prints directly on paper so each impression is sharp, clear and easy to read. The synthetic polymer disc is first inked by a special cartridge before it prints. Each ink cartridge is easily replaceable. The cartridge lasts for more than 15 rolls of paper at a cost of 17¢ per roll—far less than any other system.

PLAIN PAPER PLUS

Using standard paper tape is only one of several advantages that make the Canon a truly spectacular value. Here are some other exciting new features:

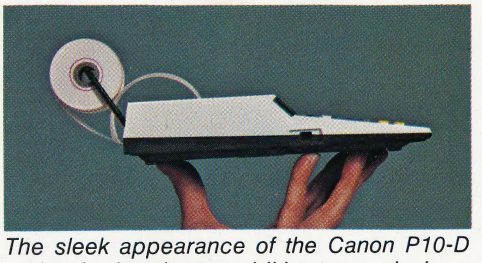
Dual Power Operate the Canon from either your AC outlet or its built-in rechargeable batteries. It's totally portable, yet it also makes a handsome desk calculator.

Dual Display Just flip a switch and the 10-digit large green fluorescent display can be used with or without the printer.

Space-Age Styling Compare the sleek appearance of the Canon with any other printer. It's small enough to fit in your briefcase and large enough to use as a space-saving desk unit. It measures only 1¾" x 4¼" x 8½", weighs only 24 ounces and the paper tucks into the body of the unit—perfect for travel.

Buffered Keyboard If you enter your problems faster than the printer can print them out, don't worry. The unit's memory stores your keystrokes and prints them out in rapid succession.

We have always looked at small printers as gimmicks—calculators that lack many important features. We were surprised with the Canon. It has features that far exceed most printers costing hundreds of dollars more.



The sleek appearance of the Canon P10-D makes it a handsome addition to any desk.

The following is a list of those features: 10 digit capacity • full four-key memory • addition, subtraction, multiplication and division • percentage key • add-on and discount calculations • power and reciprocal calculations • repeat calculations • add-mode • switch for full-floating or second and third fixed decimal positions • round off or round down switch • paper tape advance.

There are other convenient features that make it perfect for people who spend hours at their calculators. There's a three-digit item counter that counts and prints out the number of entries while printing your total. The symbols on the right side of the tape tell you the nature of each entry. Even in its battery-operated position, you could print out more than half a roll of tape before the unit signals you that its batteries are low.

A NEW WAY TO BUY

JS&A offers you a new way to buy your 10-digit Canon P10-D. First we give you the opportunity to use one for 30 days. Carry it in your briefcase. Put it on your desk and see how handy it becomes and how little space it takes up. Check the paper tape and see how clear and easy-to-read it is. Bring it home and let the whole family use it.

Then, within 30 days, decide. If the Canon is not perfect for you, return it for a prompt and courteous refund. And if you do return it, not only will we still consider you one of our good customers, but we will also refund your $2.50 postage, let you keep the paper tape, and thank you for giving us the opportunity of showing it to you. We couldn't be more positive about the quality and value of the new Canon.

Canon is one of the world's largest manufacturers of cameras and precision quality instruments and is highly respected as a quality manufacturer of electronic products.

The Canon costs only **$89.95** plus $2.50 for postage and handling and includes a free roll of tape, one ink cartridge, rechargeable batteries, power cord/charger, dust cover, and a one year limited warranty. It's an incredible value thanks to its new technology. To order, send your check, or call our toll-free number if you wish to purchase by credit card.

Space-age technology has produced another major product breakthrough. Order your Canon P10-D at no obligation today.

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the Telephone Revolution

From Mickey Mouse to personal phone systems, consumers can now own their own telephones.

When the government approved the right of consumers to own their telephones, a new revolution in consumer electronics was launched. All phones, however, must be registered by their manufacturers with the Federal Communications Commission (FCC). Since this new law came into effect, the phone companies have also adjusted their rates, so it now makes sense to own your own phones.

JS&A has selected the most innovative of the new phones and the phone shown to the left is a good example. Take the phone from Mickey's hand, and his arm lifts up to start the dial tone. The Mickey Mouse phone was our choice for the most creative decorator phone, one that would look impressive on any executive's desk. The phone is available now but only through your local telephone company, for approximately $125 plus installation. We do not sell it, but we thought it was so neat that we decided to show it to you in our catalog. The phone was designed by toy designer, Marvin Glass, and licensed by Walt Disney.

The telephones shown above are manufactured by ITT and represent their finest decorator models. Each phone comes only in rotary-dial models. The Delta Phone to the above left has an unusual hand set and design that sets it off from any standard phone. The cost is **$89.95.** The model shown at the top of the page has an olive green handset and a grey base. It is also available with a grey handset and a white base.

The green Ultra Phone model shown in the middle above is a fine leather-covered, attractively-designed unit that looks beautiful on any executive's desk both at home or at the office. JS&A's cost is only **$129.95.** The unit also comes in brown leather.

The phone to the above right has an automatically retractable cord that disappears when the phone is hung up. When the handset is placed on top of the base, it blends in with the rest of the design to resemble a jewel box. You'd never expect to find a telephone inside. The pure leather covering adds a very elegant touch to the entire unit. It costs only **$129.95.** For all phones shown above, please add $2.50 for postage and handling.

To install any of these phones, simply plug them into your existing phone jack. If you have none, just call your phone company and for a low, one-time charge, they will come to your home or office and install a jack.

Even if you have a multi-line phone on your desk, you can install a jack for one of your lines. On an executive's desk, for example, the Mickey Mouse phone can be installed next to the multi-line phone for those occasional Mickey Mouse-type calls.

All telephones shown on these two pages have a one-year limited warranty. Look them over and then decide. Each phone will be sent to you with the proper plug-in module.

If you also need a four-prong jack, please indicate this on our order form. When this catalog went to press, the ITT phones were being examined by the FCC. Upon approval, they will be available for delivery. We expect this approval soon.

Why not consider a phone as your next gift? It would certainly be unexpected and a gift that would be used and remembered every day. Order your decorator phone at no obligation, today.

TRIDAR
ABC
DEF
MNO
JKL
GHI
WXY
TUV
PRS
OPER
HOLD
OFF
ON

Phone System

Announcing an entire phone system within a phone and the newest concept in telephone design.

The telephone is changing. And the new JS&A Tridar Phone will change your concept of telephone design. Here's what we mean:

No More Cradle Who says a phone needs a cradle? The new JS&A phone has a button. When the phone rings, you press it to answer.

No More Hands When you talk on our phone, you have a choice. You can either pick it up, or you can leave it on your desk. If you leave it on the desk, you answer by pressing the "on" button, and the Tridar turns into a hands-free amplified speaker phone.

No More Straining If the kids are screaming in the background or your secretary is typing nearby, just pick up your JS&A Tridar, and your phone switches automatically from a speaker phone to a conventional phone. You can also adjust the integrated volume control to make listening easier in either mode—perfect for the hard-of-hearing.

No More Embarrassment Who says you can't put a hold button on a single-line phone? Just press the hold button on the Tridar, and the red LED light blinks on and off while you tell your kids to quiet down or your secretary to get a report.

No More Dialing The new Tridar operates on any touch-tone line. A new system is being developed which will permit touch dialing even on rotary-dial lines at no additional expense. You should first check with your phone company to see if your phone lines accept touch-tone operation. If not, we will be happy to take your order for the rotary version when it becomes available.

No More Hang Ups You don't have to hang up a phone to disconnect a call. Just press the off button.

Picture this. The Tridar phone rings. (There are two loudness levels to this very pleasant electronic sound.) You walk up to the phone, press the "on" button and say "hello." The party at the other end requests to talk to somebody else in your home. You say,"Hold for one minute."

You then press the "hold" button and call the other person to the phone. Look how simple that was. You never picked up the phone, you never had to cover the mouthpiece while you called the other party, and your caller appreciated not hearing the clunk of your phone as you placed it on your desk.

SPACE-AGE STYLING

The Tridar is pefect for patients because they can lie in bed and talk hands-free. The phone is perfect for the hard-of-hearing or for people in loud environments who need extra volume when listening. The dual volume control adjusts both the hands-free phone and the earphone to just the right loudness level.

You couldn't own a more dramatic or handsome-looking phone than the Tridar. Its sleek, space-age styling and its white finish with black inset panel look great on any desk, in any room, for any occasion.

The JS&A Tridar phone is a tradition-breaking computerized phone system with all the personal features that make it easier to use than any other system.

MORE FEATURES INSIDE

Here are a few of the many innovations in the Tridar design:

1) Almost all electronics have been condensed on three integrated circuits.

2) The speaker phone uses a new peak detector/comparator circuit that senses which party is talking and automatically adjusts the volume level to prevent feedback. You get a clean two-way conversation without voice distortion.

3) Although it is practically impossible to totally eliminate the echo effect caused by room acoustics of most speaker phones, the Tridar dampens the effect and practically eliminates it when you talk within two feet of the unit.

The JS&A Tridar phone was designed to take abuse. By eliminating the cradle, you also eliminate the spiral cord which always seems to tangle. You can also drop the Tridar five feet without damaging it. Its high-impact plastic and the solid-state components were specifically designed to take the worst abuse we give our phones.

Service should rarely be required, but if it is, JS&A's service-by-mail facility is as close as your mailbox.

TRY THE SYSTEM

JS&A makes it easy to try this unique phone system. First, order one, two, or as many as you need. We will then send you the JS&A Tridar system. Use it to make your calls. See how convenient it is to use the hold button. See how easy it is to dial out without ever having to lift the unit. See how clear you and your other party sound on the hands-free speaker phone when you are yards away from the unit.

After you are fully convinced that the JS&A Tridar phone has pleasantly changed your concept of telephone communications, then decide if you want to keep it. If you do decide to return it, we will not only return your money, but we will refund the $3.00 postage and handling as well. You can't lose.

To order your JS&A Tridar phone system, simply send us your check for **$149.95** plus $3.00 for postage and handling, or credit card buyers may call our toll-free number. If you own a dial phone and your phone system will not accept the touch-tone system, our simulated touch-tone system will be available during the summer of this year. However, you may place your order now. You may also order the Tridar without the speaker phone capability for only **$99.95.** With your phone, we will send you all connections, a one-year limited warranty, and a complete set of simple operating instructions. The JS&A Tridar phone is awaiting FCC approval for direct interconnection with your phone lines. Approval should be received soon however, We will not deposit your check until we are ready to ship your unit.

READY TO PLUG IN

When approval is received from the FCC, the Tridar can be plugged directly into the phone lines. If you do not own a jack, simply call your local phone company representative. They will arrange to install a jack at an average cost of $15 depending on your local area. Then when your phone arrives, just plug it in. It's just that easy.

Space-age technology brings you a phone system within a telephone. Order your JS&A Tridar at no obligation today!

Telephone Answering Breakthro

The new Ford Code-A-Phone 1400 answering computer.

Let a new remote control answering computer free you from your next telephone call.

It's a telephone answering computer. The Ford Code-A-Phone 1400 has the first large-scale integration of solid-state componentry—a major change in telephone answering systems—since the first mass consumer models appeared five years ago. This means more features, lower cost and greater dependability. Here are some of its exciting features:

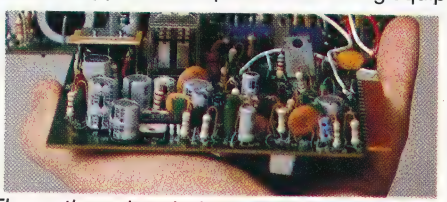
Forget about tapes There are no tapes to buy. The Ford unit has a special polymer-based magnetic tape that will record over 25,000 phone calls without replacement. That's over five solid years of use. There are no cassette tapes to buy, wear out or replace.

Forget about microphones When you want to change or record your message, just press a red button, record your message and let go. The message (any length up to 20 seconds) will record and be immediately ready to play back since the message tape does not have to re-cycle. There are no separate microphones or level controls since the built-in microphone automatically adjusts to your voice.

Forget about touching it You can adjust your unit to answer on either one or four rings. When the unit is set on four rings and you reach the phone before the 1400 answers, you will not activate the unit. But let us say you're outside or indisposed. No problem. Code-A-Phone will automatically answer after four rings. This means that your unit can always be "alive" in the four-ring position, so you never have to remember to set it whenever you leave your home or office.

Forget about going home Just bring your optional remote control pager with you. If you want your messages while you're on vacation or away, call your number and the coded pager will remotely signal your unit to play back all your messages.

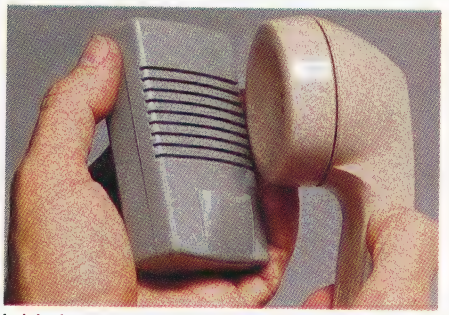
Forget about service If you've owned a telephone answering device for more than a year, there's a good chance that it's been in for service at least once. The Code-A-Phone, however, is solid state and built with the same heavy duty components used in commercial units. It should dependably stand up to years of heavy usage. (Ford Industries is the world's largest supplier of telephone answering equipment for the Bell system.) If service is ever required, there are over 200 authorized service centers plus a service-by-mail center. There's also a toll-free "Help-Line" number to call 24 hours a day for advice or suggestions, and your unit has a limited ninety-day parts and labor warranty.



The entire printed circuit board with its integrated circuits is easily replaceable and contains the "brains' required to control the audio amplifier and tape transport system.

PLENTY MORE FEATURES

Code-A-Phone has a monitor feature. You can listen to the caller leave his mesage and pick up the phone to intercept the call. If you want to skip over a message on the tape, just tap a button and it fast-advances to the start of the next call. It has a selectable erase feature that lets you erase a specific message or the entire tape if you wish.



Hold the small pocket-sized remote-control pager up to any telephone in the world and you can play back all your messages.

KNOW HOW MANY CALLS

With other answering machines, you never know how many calls you receive until you play them back. With Code-A-Phone, you have a call counter—a device that displays the exact number of calls you've received. If you now own another answering machine, you can really appreciate this convenient and exclusive feature.

Code-A-Phone is the first really versatile answerer that works equally well at home or in the office. It's perfect for the busy or working housewife who spends little time at home. And, if she's home and just plain busy when the phone rings, she can always call back later without offending the caller.

The executive can now leave his office, call from the field, and get all his messages. An inefficient operator at a telephone answering service may offend your customers by putting them on hold. Code-A-Phone, however, takes your messages quickly and without delay.

There are very few people who haven't left a message on a telephone answering machine, and callers really appreciate the convenience.

NO PHONE COMPANY TARIFFS

Code-A-Phone is equipped with an FCC-registered interconnect device so your unit is actually welcome on your phone line. The 1400 comes with a four-pronged plug so you just plug it into your phone jack. If you don't have a phone jack, just call your phone company and tell them you are purchasing an approved Code-A-Phone and that you want a four-pronged jack for your phone. They'll know exactly what you want and charge you around $15 for the installation, depending on where you live. If you have a multi-line phone, they can install a jack to tie into any or all of the lines you wish. There are no additional monthly charges.

STANDING BEHIND A PRODUCT

JS&A lets you use the 1400 in your home or office for one full month. Use it to screen your calls; take messages while you're gone or as a back-up system when you're busy. Use the remote pager and retrieve calls while you're out. See how easy it is to change the message in seconds, and see how much it uncomplicates your life. Use it under your everyday conditions at home or at your office, and then decide after one month whether or not you want to keep it. If you decide to keep it, you'll own the best. If not, return your unit for a full and prompt refund. There is no risk. Even if you already own a phone answerer, it would pay for you to see how much better the Code-A-Phone performs.

The Code-A-Phone comes in two models: the Remote Control unit for **$249.95** called the 1400 and the same unit without the pager but with all the other features for **$169.95** called the 1200.

Each Code-A-Phone comes complete with all connections and instructions (extra pagers are available for the remote unit for **$29.95** each) plus your 90-day limited parts and labor warranty. The unit measures 3¼"x 8½"x 12".

Code-A-Phone compares to units that sell for much more but do not have the simplicity and the advanced electronics of the 1400. Don't be confused. Code-A-Phone is the finest telephone answerer you can buy at any price and is years ahead of all other conventional systems.

JS&A gives you everything you could possibly expect from a telephone answering system: 1) A unit years ahead of every other unit at a very reasonable price. 2) A service network that covers the United States with repair centers and free telephone assistance. 3) The chance to buy a unit in complete confidence, knowing that you may return it if it's not exactly what you want. You can't lose.

Computer technology has even touched the telephone answerer. Now is the best time to get the finest system available. Order your Code-A-Phone without obligation, today.

This JS&A advertisement, exactly as it is shown here, has appeared in hundreds of national magazines and newspapers and has made the PocketCom the best selling product in JS&A's history. It is still available to those who wish to order a pair.

Pocket CB

New integrated circuit technology and a major electronic breakthrough brings you the world's smallest citizens band transceiver.

The PocketCom measures approximately ¾" x 1½" x 5½" and easily fits into your shirt pocket. The unit can be used as a personal communications link for business or pleasure.

Scientists have produced a personal communications system so small that it can easily fit in your pocket. It's called the PocketCom, and it replaces larger units that cost considerably more.

MANY PERSONAL USES

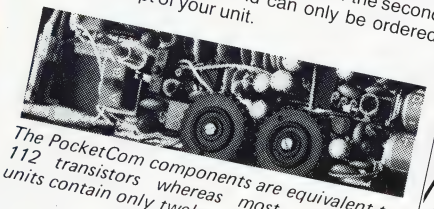
An executive can now talk with anybody in his office, his factory, or job site. The housewife can find her children at a busy shopping center. The motorist can signal for help in an emergency. The salesman, the construction foreman, the traveler, the sportsman, the hobbyist—everybody can use the PocketCom.

LONG RANGE COMMUNICATIONS

The PocketCom's range is limited only by its 100 milliwatt power and the number of metal objects between units. Its power reaches from a few blocks in the city to several miles on a lake. Its receiver is so sensitve that signals sent from stronger citizen band stations several miles away can be picked up.

VERY SIMPLE OPERATION

To use the PocketCom, simply turn it on, extend the antenna, press a button to transmit, and release it to listen. And no FCC license is required to operate it. The PocketCom has two Channels—channel 14 and an optional second channel. Plug in one of the other 22 citizen band crystals, and slide the channel selector to the second position. Crystals for the second channel cost $7.95 and can only be ordered after receipt of your unit.



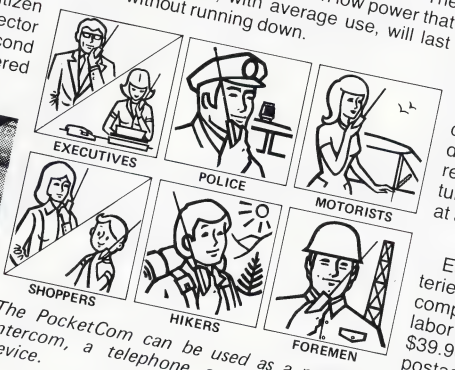
The PocketCom components are equivalent to 112 transistors whereas most comparable units contain only twelve.

SUPERIOR FEATURES

Just check the advanced features now possible because of this new circuit breakthrough: 1) Incoming signals are amplified several million times compared to only 100,000 times on comparable conventional systems. 2) Even with a 60 decibel difference in signal strength, the unit's automatic gain control will bring up each incoming signal to a maximum uniform level. 3) A high squelch sensitivity (0.7 microvolts) permits noiseless operation without squelching weak signals.

EXTRA LONG BATTERY LIFE

The PocketCom has a light-emitting diode low-battery indicator that tells you when your 'N' cell batteries require replacement. The integrated circuit requires such low power that the two batteries, with average use, will last weeks without running down.



The PocketCom can be used as a pager, an intercom, a telephone or even a security device.

MULTIPLEX INTERCOM

Many businesses can use the PocketCom as a multiplex intercom. Each employee carries a unit tuned to a different channel. A citizen band base station with 23 channels is used to page each PocketCom. The results: an inexpensive and flexible multiplex intercom system for large construction sites, factories, offices, or farms.

NATIONAL SERVICE

The PocketCom is manufactured exclusively for JS&A and is the unit currently used on the hit TV show, Charlie's Angels. JS&A is America's largest supplier of space-age products—further assurance that your modest investment is well protected. The PocketCom should give you years of trouble-free service. However, should service ever be required, simply slip your 5-ounce PocketCom into its handy mailer and send it to our prompt national service-by-mail center.

GIVE IT A REAL WORKOUT

Remember the first time you saw a pocket calculator? It probably seemed unbelievable. The PocketCom may also seem unbelievable, so we give you the opportunity to personally examine one without obligation. Order only two units on a trial basis. Then really test them. Test the range, the sensitivity, the convenience. Test them under your everyday conditions, and compare the PocketCom with larger units.

After you are absolutely convinced that the PocketCom is indeed an advanced product breakthrough, order additional units, crystals, or accessories on a priority basis as one of our established customers. If, however, the PocketCom does not suit your particular requirements, then return your units within ten days after receipt for a prompt and courteous refund. You cannot lose. Here is your opportunity to test an advanced space-age product at absolutely no risk.

A COMPLETE PACKAGE

Each PocketCom comes complete with batteries, high-performance Channel 14 crystals, complete instructions, and a 90-day parts and labor warranty. Send **$19.95** per unit (or $39.90 for two) plus $2.50 per order for postage, insurance, and handling. (Illinois residents add 5% sales tax.) or credit card buyers may call our toll-free number. But don't delay.

Personal communications is the future of communications. Join the revolution. Order your PocketComs at no obligation today.

A MAJOR BREAKTHROUGH

The PocketCom's small size results from a breakthrough in the solid-state device that made the pocket calculator a reality. Scientists took 112 transistors, integrated them on a micro-silicon wafer, and produced the world's first transceiver linear integrated circuit. This major breakthrough not only reduced the size of radio components but improved their dependability and performance.

BEEP-TONE PAGING SYSTEM

You can page another PocketCom user, within close range, by simply pressing the PocketCom's call A beep tone sounds on the other unit if it has been left in the standby mode. In the standby mode, the unit is silent and can be kept on for weeks without draining the batteries.

NEW LOW PRICE!

Credit Card Buyers Call Toll-Free

$19.95 per unit

*Sold originally for $40 per unit.

JS&A® NATIONAL SALES GROUP

One JS&A Plaza
Northbrook, Ill. 60062 · (312) 564-9000

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In Illinois call . . . . . (312) 498-6900

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280 ZZZAP
AND DODGEM
ACCOUNTING

the Home Computer Revolution

If you read this easy-to-understand article, you'll know more about home computers than most Americans will learn in the next two years.

You've heard that computers will overwhelm America. And if you are like most Americans, you probably don't believe it.

Ironically, computers indeed will overwhelm this country but for reasons quite different than you realize. The sooner you understand what is happening, the sooner you'll be able to join the revolution and take advantage of the many benefits.

The questions everyone asks is "What will a home computer do for me? How can I justify purchasing one?"

The answer is quite simple. You purchase one when the total number of things you can use it for justifies buying a system. That's it—pure and simple.

LIKE WHAT THINGS

Like the arcade games. If you've always enjoyed playing the video games at your local arcade and discovered that these same games cost only $20 each on a home computer, then it's easy to see the savings. Sea Wolf is a game that sells for $1500 to arcades. The Sea Wolf cartridge in our Bally Computer costs only $20.

Another example is a 10-digit calculator with ten memories. If you need a calculator and the Bally computer can do the same thing, you've got something else to justify its purchase.

Now add Bally's Math Bingo game which adjusts to each player's math proficiency as the game is played. A child can compete with a parent and learn the math tables at the same time. A stimulating learning system like this is available at a cost of thousands of dollars. On the Bally computer, it costs only $20.

The more features you can use, the more the system starts to make sense for you. But the key is price. At what price does it make sense to make the plunge?

WHAT PLUNGE?

Buying your first piece. Chances are, no matter what you buy, it's the start of a relationship with your home computer. After you get one, amazing things happen. You discover all sorts of neat things you can do with it which make it work even better.

There are printers that print out paper copies, text processing programs that turn your computer into a typewriter, storage systems that store your programs, and a host of other add-ons (called peripherals) that expand the fun and use of your system. But the key when you decide to expand your computer is the system you start with.

Top view of the complete Home Library Computer with alpha-numeric keyboard. This system, a powerful home or business computer, will be introduced in August of this year.

HOW SHOULD I START?

As slowly and as inexpensively as possible. Just look at the trouble businesses have when they get their first computer. They purchase an expensive computer and add peripherals only to find that they've outgrown their system and have to replace everything. So the key is to get a system that can grow beyond your wildest desires.

YOUR WILDEST DESIRES

But to know your wildest desires, you've got to learn a little about how to measure the power of a computer. If a computer can be graded or judged or weighed, it would have to be by its memory power—the amount of space it has to store or process data. And if you learn just two things about computers, you'll sound knowledgeable in any crowd.

TWO THINGS YOU SHOULD KNOW

First, you measure memory power in thousands of bytes. (A thousand bytes is called 1K bytes.) The second thing you should know is that there are two kinds of memory—ROM and RAM.

The ROM (read only memory) is the memory that contains the fixed programs or instructions which reside in the computer and do not change. They tell the computer what to do with what you put in it.

RAM (random access memory) is the memory that handles the data, does the work, and coordinates the activities in your computer. It's constantly manipulating data. You can feed the RAM memory with data from cartridges, cassettes, the direct entry of a keyboard, or from a typewriter terminal.

The bigger the RAM, the more capacity you have and the more work you can do. The bigger the ROM, the more intelligent your computer is, and thus the fewer outside instructions you have to feed it. With plenty of RAM and ROM, you've got greater value. But here's an interesting fact. The hardware, the RAM and ROM, and all the circuitry represent only 10% of a computer's selling price. The big surprise is in the cost of software.

SOFTWARE COSTS PLENTY

Software includes the instructions given a computer and represents 50% of the cost of a typical home computer. Software also includes the cartridges or programs you load into the computer and the instructions designed for the ROM by the engineers who designed the system. This represents thousands of man hours—even man years—of labor.

Software isn't like hardware. Software costs the manufacturer one lump sum no matter how many units he sells. So if he doubles sales, his cost for software is half his estimate per unit while his hardware costs remain fairly constant. This means that the more computers a manufacturer sells, the easier it is for him to offer better value to the consumer—easier, in fact, than in almost any other manufacturing business.

But you can't totally judge a computer by how much RAM and ROM you have. Anybody can throw a cheap computer together with plenty of power if they spend little time and thought on the software. The more extensive your software, however, the smarter your basic computer. (There are such things as dumb computers.)

HOW TO FEED YOUR COMPUTER

Computers are like people. Feed them intelligent instructions and they process data intelligently. Feed them the wrong instructions and you won't believe how stupid they act.

So to make sure computers do their tasks with a high level of intelligence, manufacturers have produced programs, cartridges, and cassettes that you can feed into your computer to make them even smarter. Arcade game instructions, accounting procedures, teaching programs are but a few examples.

These instructions are put on either ROM or magnetic media (usually tape or disks) and then "loaded" into your computer's RAM.

The only data left to feed it are those specific instructions unique to your situation. You do this through some handy little tools you can buy with many home computers.

HANDY LITTLE TOOLS

Like an alpha-numeric (typewriter-style) keyboard, a calculator keypad, or even a joystick or pistol grip accessory. All these tools enter those specific instructions you wish to give your computer and are your personal link with your system.

To view your answers, you have a few choices. You can use 1) your own black and white or color TV screen, 2) a specially designed TV called a "CRT" which only works with your computer or 3) a printer which makes a printed copy of your results.

THAT'S ALL THERE IS TO IT

If you understand what we've said, you've got most of what you need to know about the home computer revolution. Now the question is, "When do I join?"

And like we said in the beginning, "You purchase one when the total number of things you can use it for justifies buying a system." You might justify buying a system because of the educational value for your entire family, its entertainment uses, or just out of curiosity. Whatever your decision, we hope you will consider the system we are offering.

JS&A understands the computer market and the systems that will provide the most value to the consumer. We want you to join the computer revolution, and we hope you will consider our company when you do.

The basic unit of JS&A's new Home Library Computer system can be used as an electronic scrolling calculator, a teaching machine or a home video arcade game.

the JS&A Computer

Here's our choice for the very best home, personal or business computer.

It's only natural. Every home computer company will claim that their home computer is better than the next company's.

We're a little different. We feel that each computer has its own personality and price and that there is no such thing as "the best computer." But we do feel that there is a big difference in value—how much computer you can get for your dollar.

So when JS&A surveyed the market, we were rather impressed with the video game system that Bally Manufacturing was designing for their arcade games. Their software package contained all the essentials needed for a powerful home computer.

There was high resolution, excellent color graphics, comprehensive internal sound generation, a well thought-out operating system, and more software features than any other home computer.

With Bally's large volume sales of their video game, the cost of their software per unit would be quite low. By combining their unit, after a few modifications, with a JS&A system, we could produce the most powerful and useful personal business computer on the market—years ahead of all the other companies. And that's exactly what we did.

The Bally software represents only 5% of the total cost of our system, and the cost per byte is the lowest by far of all other systems. The system consists of two main modules. The first module, the basic unit, is actually a home computer with a calculator-type keypad, 4K of RAM, and an extensive software package of 8K of ROM. It costs only $220.

The add-on module contains an alphanumeric keyboard and 16K of RAM plus 16K of ROM for a total of 20K RAM and 24K ROM—the most powerful home computer system ever produced. The hardware chart in this article shows the comparison when both modules are combined to form the system.

THE BASIC SYSTEM

The basic unit can be attached to your TV screen. It provides you with a ten-digit electronic calculator with ten memories. You can scroll your computations (just like the credits on a movie screen), you can balance your checkbook, or you can do any home financial calculations. You can also access its color graphics system and have the unit draw beautiful random patterns on your color TV screen.

By adding two pistol grip accessories, you can access the three Bally arcade games already built into the unit. They include: 1) Gunfight, in which two cowboys shoot it out around cactus and covered wagons, 2) Checkmate, a one to four player game in which you build walls around your opponent to win, and 3) Scribbling, a program that lets one to four people draw different designs in full color on the TV screen. By adding two more pistol grips, four peole can play all the arcade games.

With the basic home library computer system, you can then select from a library of games and educational programs that range from math tables through adult-type courses—all of which can be stored in the unit's library located on top of the system. (See the separate descriptions of each cartridge available.)

Just add a Bally programming cartridge, and your unit is now ready to program. The cartridge and a plastic keyboard overlay convert your calculator so you can enter programming instructions and letters in a form of BASIC—a very simple and easy-to-understand programming language.

The basic unit by itself will acquaint you with the home computer revolution at a very reasonable price. It will permit you to expand its use through ROM cartridges for entertainment and educational programs.

If you decide not to expand to a larger system, you are left with a very useful system without much investment. If you decide to expand, you have a multitude of new options at very reasonable prices.

THE ADD-ON MODULE

The add-on module with full computer typewriter-style keyboard connects and fits nicely under the basic unit. The entire system is then comparable to the other systems shown in the hardware comparison chart and looks similar to the unit shown above. Now you can use it for accounting, payroll, inventory control, plus many complex operations only large minicomputers can tackle.

THE JS&A ACCESSORIES

Also, with this system, you will be able to buy from JS&A or many computer manufacturers such things as printers, mass storage systems, and your own continuous printed forms. Many of these products or peripherals will simply plug into the JS&A unit since it uses standard computer connections or "bus structures."

If you buy it for your home, you can 1) learn, compose, or play music with the unit's music synthesizer and keyboard, 2) control various functions in your home, and 3) interface through your telephone with large data banks. Your computer can literally have access to information that even the largest library will not be able to contain.

WHERE DO I START

You start first with the basic module for $220 plus any of the cartridges or accessories you wish to add. We recommend at least two pistol grips and two of the optional cartridges.

Each month, announcements of new cartridges and accessoires will be sent to you, and you may purchase them by mail or through our Dial-A-Bargain program.

In August of this year, we will start offering the add-on module to our customers. They will receive notice of add-on modules before they are made available to the general public.

We urge you to at least test the home computer revolution by ordering the Home Library Computer. Use it for 30 days in your home. Experience the interaction between you and your computer. Watch how you actually develop a relationship with it. Then after 30 days, if you are not fully convinced that the home computer will pay for itself many times over in education, enjoyment, and other benefits, return your unit and accessories for a prompt and courteous refund including your $3.00 postage and handling. We couldn't be more confident of its performance and lasting value.

NATIONAL SERVICE

JS&A has just completed negotiations for a national network of service technicians in all 50 states. If anything ever goes wrong with your unit, you will be able to either send it to our prompt service-by-mail facility or arrange to have a technician fix the unit at your home or business. Although this program won't start until the fall of 1978, JS&A's service-by-mail facility will repair your unit promptly. We do not expect many service problems. However, we wanted to assure you that service was an important consideration in our program.

IN SUMMARY

JS&A offers each reader of this catalog the opportunity to purchase the finest system available at the lowest possible cost. We offer you the opportunity to join the exciting home computer revolution so you can experience for yourself the excitement and challenge of this new electronic breakthrough. But please act soon before we launch our new national advertising campaign, and allow approximately four weeks for delivery. Simply use the order form in the center of this catalog, or call our toll-free number. We will promptly schedule a shipping date.

Now is the time to join the home computer revolution. Order your home library computer at no obligation today.

Basic Unit **$220**
One Pair (2) Pistol Grips **30**
Cartridges ..... (See Listing)

Features

The Home Library Computer has several unique features that add to its value. The following are a few of these features.

The basic Bally unit has several unique features that add to its value. The following are a few of those features:

High Resolution Good resolution on your TV screen is one of the end products of having so much memory power. The best programmable TV game image is projected on a screen composed of 64 dots wide by 64 dots deep or 4,096 total dots. The Bally unit has 100x160 dots or 16,000 dots—almost four times more—so the Bally image is sharper and has finer detail, better resolution, smoother motion, and clearer letters for math or text applications.

Large Internal Library The unit's ROM is programmed with an extensive library of tasks that it can perform without further outside instructions. This means that your computing power is already in the unit you own. Your unit can complete a function faster and more efficiently because it depends less on the data it gets and more on what it can already do. This library of tasks includes **1)** the timing, scoring, and sound effect functions for teaching and arcade games, **2)** the extensive sound generation system which will permit you to add a keyboard and play music and record and play back your musical compositions, **3)** capabilities which expand the use of your unit to accept high-level math programs, **4)** the ability to handle large amounts of data, **5)** a pause function which freezes action during an arcade game so that interruptions won't upset the scoring, and **6)** an automatic cut-off feature that automatically blanks out your TV if your unit is left unattended for more than five minutes. Most TV set manufacturers have excluded sets that use TV games from warranty coverage because of the possible lines that may appear on the screen from sets left on too long with the same picture. This is impossible with the Bally.

Handsome Styling Each module of the JS&A computer was designed to look like part of an entire system. If you buy just the basic module or if you get the add-on module, your unit will look like one cohesive system and not a series of unrelated boxes.

Fully Expandable The basic unit will be fully expandable to meet practically any personal computing requirement. The most significant expansion accessory will be the alphanumeric (typewriter) keyboard. With this accessory package which will cost under $400, you can do everything you do on any mainframe computer system within the data storage capacity of the Bally unit. This additional module is a major breakthrough in computer technology because: **1)** It will add an additional 16K RAM and 16K ROM to the basic system's 4K RAM and 8K ROM; **2)** It will provide more computing power than is presently available in any home computer and in many business mini-computers, and finally, **3)** It uses the BASIC language which is the easiest programming language to understand and use.

Library of Programs The extensive program library will include more than just arcade, educational, and math programs. There will be business application cartridges such as payroll, inventory control, accounting, and payables. There will be personal home computing programs such as recipe storage, home inventory, and personal net worth statements. A biorhythm program will be able to tell you which day to throw a party by determining the compatibility of all your guests for various days. A chess program will permit you to play chess against the computer or over the phone with another player. The list is as extensive as your imagination because if a program does not exist, you can create it yourself.

Dial-A-Bargain® You can use a home computer to transmit digital data over the telephone to another home computer. By purchasing JS&A's entire system, you'll eventually be able to play chess, checkers, or other games of skill over the telephone with someone else using his home computer, and you'll be able to see both sides of the play action on your TV screen. To do this, you'll need a phone coupler which will be available later this year.

Want products from our catalog? We'll have them ready to ship to you in less than an hour with our program called "Dial-A-Bargain." It works like this. You first insert a special JS&A ordering cartridge into your home computer. On your TV screen will appear our order form. You fill out the form using your keyboard and then place your phone in a phone coupler attached to your home computer. You dial a special toll-free number which is answered by our main computer. You then press a button on your unit, and your order, which is entered directly into our computer, is confirmed and the scheduled shipping date is flashed on your TV screen. If we are back ordered on an item, it will advise you and give you the option of canceling your order.

Meanwhile, your order is processed and a label is printed out at our warehouse. Our warehouse employees will respond the minute a label is printed, even during our night shift, so it is possible that your order will be ready to ship within a few minutes. All JS&A customers who own JS&A computers will be eligible for this truly space-age program.

Comparison Chart

	Home Library	Pet	ECD	Apple II	Heath H11	Heath H8	Sol	Radio Shack	Fairchild
MICROPROCESSOR	Z80	6502	6505	6502	LSI-11	8080	8080	Z80	F8
MEMORY RAM(Scratchpad)	20K	4K	4K	8K	8K	8K	2k	4K	2K
ROM(Resident)	24K	14K	4K	8K	1K	1K		4K	2K
ROM(Cassette)	24K						4k		2K
Std. Cassette Recorder	•	•	•	•	•	•	•	•	
BPS	300to1200	1200	3200	1500	1200	1200	300to1200	500	
INOUTS Typewriter Keyboard	•	•	•	•	•	•	•	•	
Calculator Keypad	•	•					•		•
Dial	4			2					
Joystick	4								2
VIDEO Display(Characters)	800	1000	5120	960	960	960	1024	1024	
Text Display(Capacity)	40x20	40x25	128x40	40x24	80x12	80x12	64x16	64x16	
Graphics Resolution	16,320	128,000	19,200	1920			1024	6144	4096
Graphics Configuration	160x102	320x400	120x160	40x48			64x16	128x48	64x64
Video Display (B&W)	•	•	•	•	•	•	•	•	•
(Color)	•			•					•
No. of Colors Avail.	256			16					16
Standard TV	•			•					•
AUDIO Output(Channels)	2			1					1
Music Synthesizer(Voices)	6			1					1
Suggested Retail	$650	$595	$990	$1400	$2508	$1472.50	$1295	$600	$179.95
PRICE Not Included in Price	TV			TV			Monitor		

the Hardware

The finest hardware package ever assembled.

Standard audio cassettes are used to store and retrieve programs. There are 8 bits per byte. The speed in bits per second, **(BPS)**, indicates how quickly programs can be changed. **Inputs** are the devices you use to control your computer. **Joysticks** move and position images on the screen. **Dials** enter analog or variable information like a volume control.

Video is the output to the TV or monitor. The number of typewriter-like **characters** that can be shown on the screen indicates the amount of written material the user can see at one time. **Graphic resolution** determines the amount of detail in the pictures drawn by the computer.

Audio output is usually limited to "beep" sound effects. The Bally is the only computer with a complete sound synthesizer and outputs for any high fidelity music system. The user can program a musical performance or a sonic environment for a game simulation.

Expansion capabilities are not shown on the comparison chart. The SOL, for example, can be expanded to include the same memory capacity (RAM and ROM) and input flexibility (joysticks and dials) as the Bally Home Library Computer. This expansion hardware alone would cost over $1,000 and would require custom software development. Even with this extension, the SOL does not have color graphics capability.

No other unit in this comparison can be modified to match the input flexibility, computational power, and output graphics capability of the Bally Home Library Computer.

The prices and features of the add-on module are subject to minor revisions prior to our national introduction. The add-on module must also be submitted to the FCC for final approval.

This presentation is a preview look at the JS&A system. All JS&A customers will be given advance notice of the availability of the add-on module and may purchase it before the general public. First priority, however, will be given to JS&A customers who already own the basic system. JS&A expects to introduce the add-on module to its customers in August and plans to ship units in October, 1978.

the Cartridges

The best of the popular arcade games and teaching programs.

After reading the descriptions below, you will have a strong insight into why the home computer revolution will be as big as we predict it will be. Each game or cartridge replaces equipment costing from fifty dollars to fifteen hundred dollars—games that would be impossible to offer without a sophisticated microprocessor-based electronics system. The more you realize how much value you are getting by using a computer as your base and by purchasing cartridges to expand its value and applications, the more you will see why the computer will eventually be the single most important new home or business product during the next decade.

The cartridges now available will teach, entertain, and fascinate you. Here's a sample:

Math and Math Bingo This is probably the most popular cartridge in the program. It's actually designed to teach math, but it has turned out to be just as much fun as an arcade game. In Math Bingo, two bingo cards are displayed on your TV screen. You and your opponent use pistol grips to move a small solid square, called a cursor, on the screen. The computer first asks you what type problems you wish to solve (addition, subtraction, multiplication, division, or a mixture of them all). You answer by pressing a symbol on the calculator keyboard that corresponds to the type problem you wish to answer, and the game begins.

A math table problem appears under each bingo card. Each player's problem is different. You figure out the answer and then with your pistol grip, you move your cursor to the square on the bingo card that has the right answer. The first player to move to the correct square and pull the trigger blanks out that square, and the other player is prevented from scoring. The first player who blanks out all the squares in a row wins the game and gets one point.

The computer also does something unique. It measures the speed and accuracy with which the questions are answered and adjusts the complexity of the problem to correspond to each player's ability. This means that a father can play against his daughter or grandma can play against her grandchild with each player having an equal chance of winning.

The game also uses sound effects which add to the action. Math Bingo lasts about three minutes, and the game can be played for hours since the score accumulates to 99 points. There are a million different bingo card possibilities, so there's no chance to figure out a way to beat the computer except, of course, by learning the math tables. Only $20.

Baseball and Paddle Games Baseball is the same game that is a very successful two-player arcade game for Bally. Your TV shows a baseball diamond and outfield. At the start of the game, the players run out onto the field. You actually see little figures with their feet in motion running across your screen.

The first batter steps up to the plate. Your team is on the field. You can move your outfielders around by using the knob at the top of your pistol grip handle. By pressing the joystick on the pistol grip, you fire the ball to the batter. You can pitch a curve ball or a fast ball. You control your pitches using your pistol grip.

The second player plays against you on the batter's team. The batter swings his bat each time he presses the pistol grip trigger. If he swings too early or too late, he fouls off the pitch, so there's a challenge to hit the ball at just the right time.

When the ball is hit, the outfielders can be moved to chase the ball. The game is so realistic that you hear the roar of the crowd and the sound of a hit ball. The pitcher automatically runs to cover first base when the ball is hit to right field—just like in the real game.

The cartridge also contains several paddle ball games but with a difference. Instead of holding your paddle in one plane of action and moving it up and down, you move it horizontally as well. This adds a challenging new dimension to all the paddle ball games on the cartridge. The cartridge is only $25.

Sea Wolf and Bombardier This arcade game is the most popular video arcade game in Bally's history. Boats float across your TV screen at different speeds. You then try and torpedo the boats using your pistol grips.

The faster the boat, the more points you're awarded if you hit it. To make it even more interesting as the game progresses, land mines appear and block some of your shots, so you must learn to shoot around them.

The game is a huge success at arcades throughout the country and costs arcade owners $1500 to buy. Whereas the arcade game could only be played by one player, the newer home version can be played by one or two players to make the game even more fun than the original version.

The other game in the Sea Wolf cartridge is called Bombardier and is the aerial version of the Sea Wolf game. In this game, airplanes bomb targets for points. The cost of this very powerful cartridge is only $20.

Panzer Attack and Red Baron The Panzer Attack cartridge is similar to the very popular arcade game called Tank. Two tanks navigate around obstacles and fire at each other. Each time you strike an opponent, you win a point. The rumbling sounds of tanks and the explosions when the tank shells strike their targets add a realistic touch to one of the most popular video arcade games in history. The game is timed, so after a few minutes, the winner is determined by the highest score and a new battle begins.

The second game, called Red Baron, is the aerial version of Panzer Attack. Two planes shoot at each other with points scored for direct hits. The entire cartridge costs only $20.

280 Zzzap/Dodgem Although this is also an arcade game, we do not highly recommend it unless you own the other cartridges and wish to complete your collection. We have found that it is the least enjoyable of the arcade games, and your family will tire of it rapidly.

280 Zzzap puts you in a car. By pressing your pistol grip trigger, you accelerate. You drive between white posts stationed along a highway. You steer your car by use of the knob at the top of the grip. The faster you go, the faster you have to steer. Each time you crash, you must start accelerating again. The object is to go the farthest distance in the shortest time. This can be mastered very quickly.

Dodgem is simply an aerial view of a race track in which you dodge in and out of traffic trying to reach a goal. The object of the two-player game is to reach the goal with the least amount of crashes. This cartridge is $20.

BlackJack/Acey-Deucey/Poker These one, two, three, or four player games are part of the home entertainment series. Pictures of the playing cards are shown and shuffled right on the screen. The cartridge is a great party game and available for only $20.

The pistol grip accessory is used for the video games and is an optional accessory.

Tiny-Basic This is a great introduction to the world of programming. Using this cartridge, you turn your calculator keypad into an alphanumeric keyboard with the addition of a plastic keypad overlay. Then you can enter letters and numbers and several programming steps using the BASIC language. With a little practice, you'll be able to actually create your own arcade games. A booklet telling you how to program your computer with your own programs comes with the cartridge.

The cartridge costs $50 complete with instructions. When you receive your add-on module, you will no longer need Tiny-Basic. We will, however, give you a full $50 credit towards the purchase of the add-on module when you return the cartridge to us.

The program library was designed to fit in the top portion of the basic module which will hold 12 cartridges. We suggest that you order at least two of the cartridges to get a thorough idea of the Bally system. Postage and handling for each cartridge order is $1.00 no matter how many you purchase. If you order the basic unit and several cartridges at the same time, there is no additional postage and handling for the cartridges.

Video Pinball

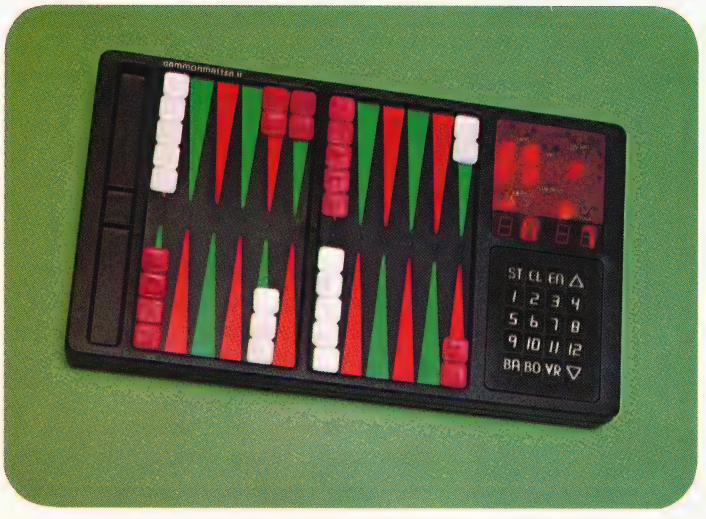
Here's our choice for the best of the new dedicated video games.

A dedicated game is basically a game programmed to do only what the manufacturer intended it to do. Its program is on a ROM (see the explanation of ROM on page 15), and you interface with it through the controls.

The Atari Video Pinball plays Breakout, the most popular of the video pinball games ever invented. Other games include Rebound, Pinball, and Paddle Pinball. There are a total of six of the best pinball games around.

There are four progressive levels of difficulty, and each game comes complete with all the hardware needed to connect it to any television set.

Atari, a leading company in home video games, manufactures Video Pinball. With the growth of home computers, we feel that the dedicated game will decline in popularity. In our opinion, however, Atari's Video Pinball is the best of the dedicated games. Order one at no obligation, today. **$89.95** ($2.50).



Backgammon for Beginners

A new backgammon game can teach you to play the experts and win.

You've heard of Backgammon's popularity. And if you still don't play, you're missing a great pastime.

Our version lets you match your skill against a computer. More importantly though, it gives you the opportunity to practice and learn the game—perfect for beginners. The next time you get together with friends who are experienced Backgammon players, you'll be able to hold your own, even against the toughest competition.

The game has electronic dice. Just press a button and a random generator rolls the dice and automatically displays the dots on cubes—just like the real thing.

You enter your move in the computer so it knows how to react to your next move. Can you beat the computer? Well, Boris (that's our pet name for it) isn't exactly a pushover, but you do have a chance—especially with practice. And if you beat Boris more times than he beats you, you know you're really an expert.

Why not learn how to play backgammon in the privacy of your home before you challenge the grand national champions. Or better yet, if you're an expert, why not play someone really tough for a change? Only **$200**.($2.50).

Computer Scale

Add some fun to losing weight with a new, extremely accurate and easy-to-read digital scale.

Losing weight is not easy. Ask anyone.

One of the few pleasures of losing weight is stepping on your bathroom scale and seeing positive results. Your bathroom scale is like a report card—a feedback mechanism that tells you how well you've done.

The new American-made Counselor 77 platform scale is the newest and best way to weigh yourself. In the first place, it's accurate to within one pound. (Most platform scales are accurate to within three pounds.) Secondly, it has an easy-to-read, large LED (light-emitting diode) display. There are no balance beams or fine lines to interpret. And finally, it is easy to use—just step on it and read your weight. There's no guessing as your weight, up to 300 pounds, is flashed on the display.

EASY TO USE

Simply tap the activator bar in front of your scale with your toe and the unit turns on. Step on the scale, and read your weight. Seconds later, the scale shuts off automatically. By sliding a switch, you can weigh yourself in kilograms—an important feature since the US is changing over to the metric system.

The accuracy is not affected by temperature or humidity like other scales since the Counselor 77 spring is pre-calibrated and sealed at the factory. This is important, for it means that each time you step on the scale, you'll know what you've lost is weight and not your scale's accuracy.

SEE THE DIFFERENCE

The best way to see the difference a really good scale makes in your weight reduction program is to try a Counselor scale for one month. We give you that opportunity with our free 30-day trial period. Weigh yourself every day. See how easy it is to read your exact weight loss on a daily basis. Soon, stepping on your scale becomes a fun experience for your whole family, and everyone starts watching his or her weight.

Service should never be required (other than yearly battery replacement), but Bearly Company's prompt service-by-mail facility is always ready to service your unit. The Bearly Company, manufacturers of the Counselor, is the largest manufacturer of bathroom scales in the United States.

HOW TO ORDER

You can order your platform computer scale by sending us your check for **$49.95** plus $3.00 for postage and handling. Credit card buyers may call our toll-free number.

You'll receive your scale, four pen-light batteries, and your 90-day limited warranty. If you do not find that the Counselor scale is the best way to weigh yourself—far better than any scale you presently have in your home—then return it within 30 days for a prompt and courteous refund which will include your $3.00 postage and handling. You can't lose, even if you just try the scale.

The age of weighing yourself by computer is here now. See how much fun losing weight can be with your own solid-state digital scale. Order one at no obligation today.

Hospital Computer Scale

Counselor also makes a Hospital Computer scale for $350. It's an extremely accurate system that weighs you to within one tenth of a pound up to 400 pounds. Since many consumers have bought them from JS&A, we have decided to offer them in our program.

WORKS LIKE A COMPUTER

You press a button to electronically register a true zero position. You then step on the scale, and your body weight causes a minimum friction disc to rotate. Two photo transistors sense the speed of the disc and its direction and feed this information into the unit's computer. The computer then interprets this data to within a tenth of a pound accuracy and activates the large eight tenths of an inch LED read-out display located directly in front of you.

The entire process takes a fraction of a second and is the fastest way to accurately read your weight. The only moving part, the rotating disc, is heat treated to last a lifetime, so there are no parts to wear out nor is there any maintenance required except for yearly battery replacement. The Hospital Computer scale comes complete with four nine-volt batteries. Only **$350** ($3.00).

Home Blood Pressure Computer

A new space-age measuring system lets you easily check your blood pressure quickly and accurately without a stethoscope.

The new Astropulse 10 lets you quickly read your blood pressure without a stethoscope and without even rolling up your sleeve.

The system is based on three micro-electronic circuits and a microphone transducer. The microphone picks up pulses in your artery, and the integrated circuits measure the pulses and relay the information to a meter which visually displays your two blood pressure readings. There is no expensive stethoscope required, no guesswork or complicated steps to follow.

EASY TO USE

Taking your own blood pressure is quite simple. Just slip your hand through a self-tightening velcro cuff, slide the cuff up your arm, pull the tab and attach the tab to the velcro material. The tab will stick automatically without loosening. Then squeeze the rubber bulb to inflate the cuff, and take your blood pressure readings.

When a doctor reads your blood pressure, he uses his skill and a stethoscope to recognize your systolic and diastolic readings. Now a computer can do this in the convenience of your home and on a regular basis.

The Astropulse 10 also flashes an LED signal and an audible tone at the two blood pressure readings to assist the hard-of-hearing or those with poor eyesight.

DOCTORS ENCOURAGE USE

Knowing your correct blood pressure is very important. Statistics show that as many as 25 million Americans suffer from hypertension, yet only half know about it. Hypertension is high blood pressure, and high blood pressure usually goes unnoticed until other symptoms of hypertension occur—often too late to correct.

The Astropulse 10 was designed to take your own blood pressure in the privacy of your home. The cuff is easily tightened with the self-tightening bar and the velcro material. Just pull the flap and attach it to the cuff.

The entire blood pressure kit fits nicely in the carrying case supplied free with each unit. The carrying case measures 3½"x 4"x 7" and the entire system weighs only 20 ounces.

The Astropulse 10 is so easy to use that it encourages regular blood pressure monitoring—exactly what doctors recommend. Even if your health has been perfect, hypertension and high blood pressure can occur any time.

SOLIDLY BACKED

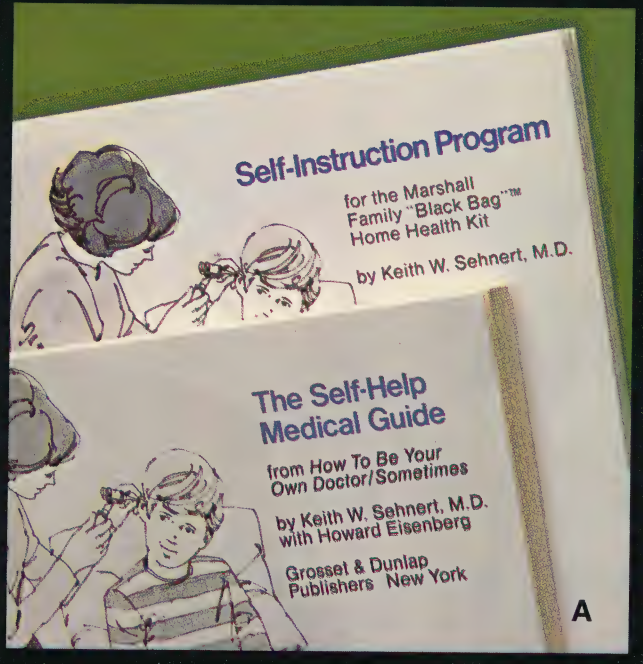
The Astropulse is powered by a readily-available 9-volt battery supplied with each unit. The Astropulse uses solid-state electronics so service should never be required. But if service is ever required, JS&A's prompt service-by-mail center is as close as your mailbox.

To order your Astropulse 10, simply send your check for $69.95 plus $2.50 for postage and handling, or credit card buyers may call toll-free. By return mail, you'll receive your Astropulse 10 complete with a 90-day limited warranty, carrying case, and blood pressure record book.

TEST IT YOURSELF

When you receive your Astropulse see how easy it is to slip the cuff on your arm, tighten, and inflate. See how easy it is to read. If for any reason you are not absolutely pleased with your unit, return it within 30 days for a full refund, including your $2.50 postage and handling. There is no risk.

Space-age technology has made it easy to monitor your own blood pressure. Order an Astropulse 10 at no obligation, today.


Self-Instruction Program
for the Marshall Family "Black Bag"™ Home Health Kit
by Keith W. Sehnert, M.D.
The Self-Help Medical Guide
from How To Be Your Own Doctor/Sometimes
by Keith W. Sehnert, M.D. with Howard Eisenberg
Grosset & Dunlap Publishers New York
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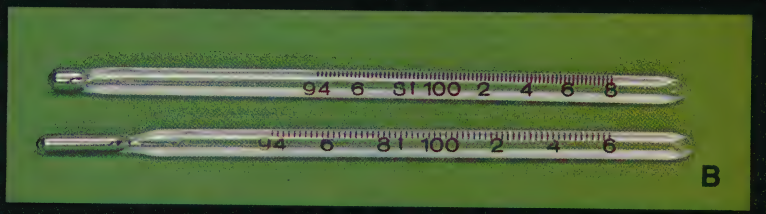
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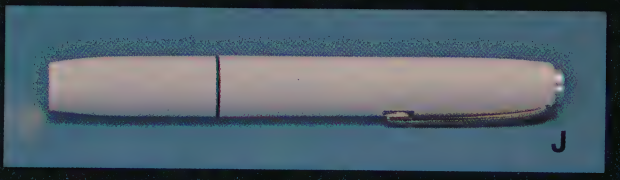
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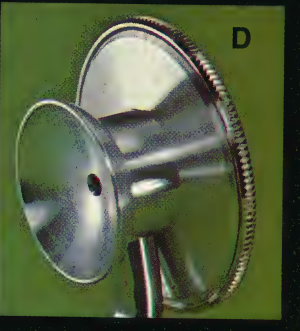
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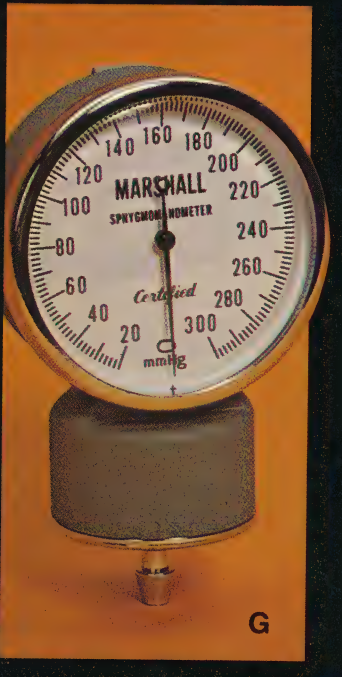
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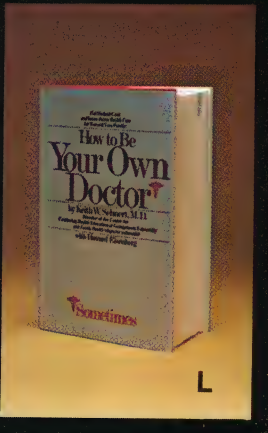
How to Be Your Own Doctor
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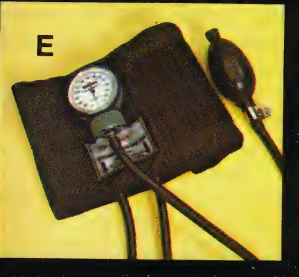
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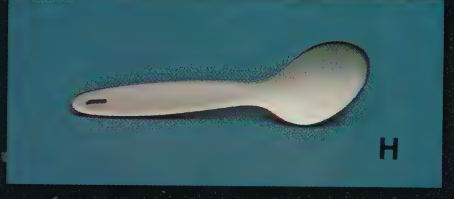
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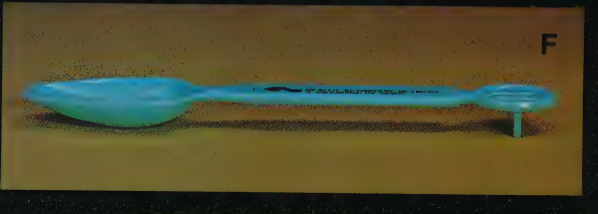
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Doctor's Helper

Introducing the Marshall Black Bag, the home examination kit your doctor will appreciate.

House calls by doctors are rare. No longer does the family physician have the time to travel any distance to examine a sick patient.

But when he did, he carried his mysterious little black bag—a case that contained the instruments he used to examine you.

The same black bag is once again popular in one of the most interesting trends in modern medicine. Now consumers are using black bags themselves, and many doctors love it. Here's why:

Better Diagnosis The only help you can give your family doctor over the phone is a report on the sick person's temperature and the obvious symptoms such as coughing, sore throat, or aches and pains. But to a doctor, that's little help. With your own black bag, you can talk to your doctor much more intelligently so he can better understand the symptoms and make recommendations.

Saves Time You can save time in getting the illness diagnosed so the proper medicine or action can be taken immediately, thus avoiding unnecessary misery. You can also save time by not having to sit in a crowded doctor's office.

Saves Money A trip to the doctor's office is not only time-consuming, but it is costly. And sometimes, it's unnecessary. With your own black bag, you know when it is time to go to your doctor.

Improves Health There are many reports on how people discovered serious illnesses simply by having a black bag and out of curiosity monitoring one of their bodily functions.

Your own black bag is no substitute for the medical advice you need from your doctor. It is simply a way of communicating symptoms so your doctor can make a proper diagnosis, and it is a way for you to keep tabs on your entire family's health.

JS&A has assembled a series of instruments contained in a case which we call the Marshall Black Bag.

There are also two very helpful booklets included with this kit. The first, called the *Self-Instruction Program*, **A**, describes the instruments that are in the Black Bag and how to use them. The second booklet, called the *Self-Help Medical Guide*, **A**, 1) describes the various illnesses, diseases, or injuries that you may have, 2) provides some practical pointers on how to handle these problems, and 3) describes the symptoms or limits that signal when you definitely should call a doctor.

Chapters in the book cover such topics as the most common illnesses, injuries, emergencies, and their symptoms, and there is also a treatment and drug index.

ELIMINATE 50% OF YOUR VISITS

Equipped with your own Marshall Black Bag and these two helpful booklets, you can probably cut out about 50% of your phone calls and visits to doctors, and they can save their energy for the really necessary visits and calls.

There are some doctors who do not endorse the black bag concept fearing that consumers may start playing doctor. That, of course, is always a possibility with or without a black bag.

Dr. Keith W. Sehnert, author of the two booklets in our kit and author of the best-selling book, *How to Be Your Own Doctor, Sometimes*, states in his book, "The contents of the physician's black bag have always been a mystery to the patients they treat. It is time to unzip that mystery."

The black bag concept has also been endorsed by the Health Activation Network—a non-profit organization that teaches consumers how to "...act responsibly for themselves and their families in order to prevent, detect and treat common illnesses, injuries and emergencies."

Even the American Medical Association agrees that consumers should be "encouraged and assisted to be more active and knowledgeable participants in making health care utilization decisions."

JS&A proudly offers the Marshall Black Bag, its instruments, and the booklets necessary for a very intelligent approach to home health care for only $79.95. The following is a brief listing of the instruments shown on the opposite page.

Acoustical Stethoscope This instrument exceeds medical and governmental standards for sound amplification. It is used in counting the heart rate (pulse). When the heart rate is rapid, taking the pulse by the wrist or temple won't work, so you use the stethoscope over the heart area of the chest. This is especially valuable for the young and elderly. The stethoscope shown in pictures **C** and **D** normally sells for $24.

Otoscope This is a high-power device for examining the eardrum—one of the principle indicators of a severe illness. Just determining the color of the eardrum can often tell you and the doctor the seriousness of the illness. The Otoscope is shown in picture **I** with different-sized speculums for babies, teenagers, and adults. It comes complete with 2 "C" cell batteries and sells for $79.95.

Sphygmomanometer This is primarily used as a check to determine if the patient has high blood pressure or hypertension. The monitor may be used to check the pressure of someone in shock and is used in conjunction with the stethoscope. The meter and cuff are shown in **E** and **G**. This monitor is a quality instrument that exceeds federal specifications for this type equipment and should not be compared to the inexpensive units being sold on the mass market today. Sold separately, this sphygmomanometer sells for $49.95.

The Other Instruments The remaining instruments were carefully selected specifically for the Marshall Black Bag as the final items you need for your diagnostic kit. They include a high intensity light with a very concentrated beam for looking down a throat or up a nose **J**, one rectal and one oral thermometer **B**, a combination dental reflector and tongue depressor **H**, a medication dispensing spoon that lies flat on a table so you do not need two hands to pour medicine **F**, and finally the black bag **K** to put all your instruments in.

All instruments in this kit are professional grade and were chosen for their quality. All monitoring devices exceed the recommended specifications of the federal government. Our philosophy was to provide the consumer with a black bag that could be handed down from generation to generation—one that puts the professional instruments of a doctor into the hands of the consumer at a very low cost.

Our company does not normally sell non-electronic products, but we were so impressed with the concept that we accepted the request for assistance in marketing this item.

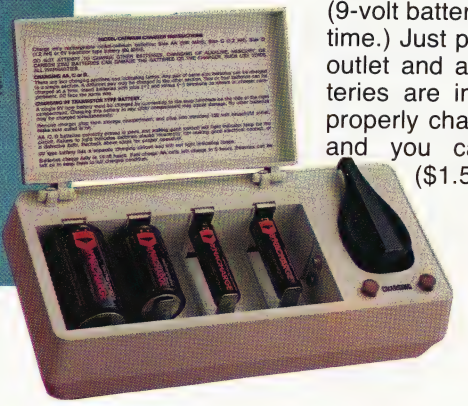
To order your Black Bag, send your check in the amount of **$79.95** plus $2.50 for postage and handling. We are sorry, but because of the cost to us of this kit, we cannot accept credit card orders. You may, however, call our toll-free number if you have any additional questions. If you also wish to purchase Dr. Sehnert's book, *How to Be Your Own Doctor, Sometimes*, please add an additional **$9.95**.

We will send you your Black Bag with all the instruments shown to the left plus all batteries and booklets. When you receive your kit, take it to your doctor. Have him examine it. Then use the instruments. If, after 30 days, you are not entirely satisfied with the Marshall Black Bag or its value, return it for a prompt refund.

It is time consumers play a more active role with their own health and provide needed assistance to their doctors. Order your Marshall Black Bag at no obligation today.

The New Battery Technology

Even battery technology is changing. The new Dynacharge power cells provide a constant voltage and never leak (even if left in seldom-used products). They have a 5-year or 1000-charge warranty, and there is a 150-times savings over throwaway cells even though Dynacharge batteries are triple the initial cost. The Dynacharge cells have over 23% more capacity than other nickel cadmium batteries, cannot be overcharged, and charge to full capacity very quickly. We have selected the Dynacharge as the best of the rechargeables. Look on the order form enclosed with this catalog for prices, and then order a few today.



The Dynacharge recharging system to the lower left will charge four cells at one time. (9-volt batteries can be charged only one at a time.) Just plug the charger into any 110 volt outlet and a red light glows when your batteries are inserted correctly and are being properly charged. You can't make a mistake and you can't overcharge. Only **$12.95** ($1.50). Order one with your batteries.

Mini Travel Alarm

The new JS&A travel alarm will fit in your briefcase, pocket or purse and takes up as much space as four quarters.

It's small. And because it's small, it fits anywhere. In your briefcase or in your pocket.

The new JS&A pocket alarm measures only ½"x 1½"x 4" and has a small easel support on the back. Just set the alarm, and the electronic beep will wake you up. The clock movement is totally solid-state, and a built-in night light lets you view the time in the dark.

But the JS&A pocket alarm does more. First, it makes a great pocket watch. The small imitation black leatherette carrying case has a window so you can view the time even when the unit is in its case. Secondly, it tells accurate time—within fifteen seconds accuracy per month. And finally, it's inexpensive—only $29.95 complete with carrying case, two readily-available hearing aid batteries, and a 90-day parts and labor warranty. It makes a perfect gift for your secretary, business associates, best customers, and friends.

To order your pocket alarm, simply call our toll-free number below or send your check for **$29.95** plus $2.50 for postage and handling. If for any reason you're not happy with your unit, just return it within 30 days for a prompt and courteous refund. You can't lose. Order your pocket alarm at no obligation, today.

Order Blank Missing? Just call our toll-free number **800 323-6400** (in Illinois call 312 498-6900) or send your

ORDER FORM

Place peel-off address label (from back cover) here even if address is incorrect. Make corrections below:

Name _____
Address _____
City _____
State _____ Zip _____

Dear JS&A:

Please process my order for the items listed below. I understand that I have a 30-day trial period for all items excluding video tapes. If, for any reason, I am not completely satisfied, I may return the items I purchase within the 30-day trial for a prompt and courteous refund.

Postage and handling charges are listed in parentheses following item price.

Description	Qty.	Item Price	Postage & Handling	Total Charges

Illinois Residents add 5% sales tax. _____

Total _____

Phone: _____
Signature _____

Check enclosed: $ _____

Please charge my credit card account number: _____ Exp. _____

We honor American Express, Diners Club, BankAmericard, Visa, Master Charge and Carte Blanche credit cards.

*Please include four small digits on Master Charge cards.

Special Instructions: Want to send a gift to someone? Or do you have any special requests? If so, put them in writing in this space.

JS&A NATIONAL SALES GROUP®
One JS&A Plaza, Northbrook, Illinois 60062

Order by Phone:
Call Toll-Free 800 323-6400
in Illinois call (312) 498-6900
Corporate Offices: (312) 564-9000

☐ Please check here if four-prong telephone plug is required with order.

FOLD AND SEAL TO FORM ENVELOPE

ORDER FORM

Place peel-off address label (from back cover) here even if address is incorrect. Make corrections below:

Name _____
Address _____
City _____
State _____ Zip _____

Dear JS&A:

Please process my order for the items listed below. I understand that I have a 30-day trial period for all items excluding video tapes. If, for any reason, I am not completely satisfied, I may return the items I purchase within the 30-day trial for a prompt and courteous refund.

Postage and handling charges are listed in parentheses following item price.

Description	Qty.	Item Price	Postage & Handling	Total Charges

Illinois Residents add 5% sales tax. _____

Total _____

Phone: _____
Signature _____

Check enclosed: $ _____

Please charge my credit card account number: _____ Exp. _____

We honor American Express, Diners Club, BankAmericard, Visa, Master Charge and Carte Blanche credit cards.

*Please include four small digits on Master Charge cards.

Special Instructions: Want to send a gift to someone? Or do you have any special requests? If so, put them in writing in this space.

JS&A NATIONAL SALES GROUP®
One JS&A Plaza, Northbrook, Illinois 60062

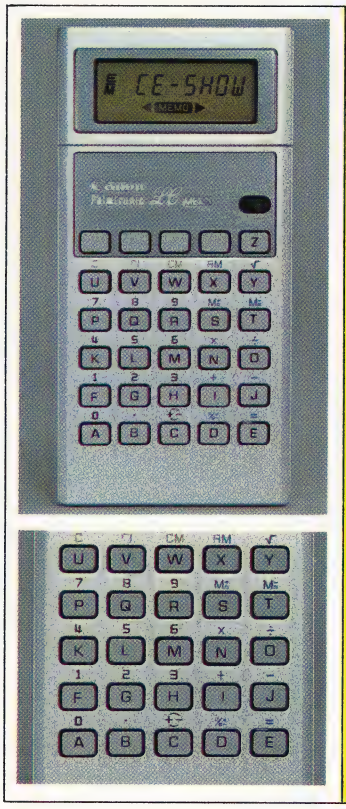
Order by Phone:
Call Toll-Free 800 323-6400
in Illinois call (312) 498-6900
Corporate Offices: (312) 564-9000

☐ Please check here if four-prong telephone plug is required with order.

FOLD AND SEAL TO FORM ENVELOPE

order by mail to JS&A

Order by mail to: JS&A National Sales Group, One JS&A Plaza, Northbrook, Ill. 60062.



Pocket Yellow Pages

Let your fingers do the data entry with America's first computerized pocket telephone directory.

You're stuck. You're at a phone booth trying to find a phone number, and people are waiting. You feel the pressure.

To the startled eyes of those around you, you pull out your calculator, press a few buttons, and presto—the phone number appears on the display of your calculator. A dream? Absolutely not.

Space-age technology has produced the Canon Directory—a calculator that stores 30 of your most frequently called numbers in its memory and let's you recall them simply by entering the person's name or initials.

The keyboard has letters as well as numbers (like the touch-tone pad on a telephone), so it's easy to enter data and use. Want to call Jim? You enter J I M, and your display shows Jim's phone number. Even when you shut your unit off, it retains your complete directory in its large memory.

Ever forget to shut your calculator off when you slipped it in your pocket? No problem with the Canon Directory. The system was built like a liquid crystal digital watch. Its display can remain on constantly without draining the two long-lasting hearing aid batteries which you get with your unit. A low battery indicator also warns you well enough in advance when it's time to change batteries.

STORE IN CONFIDENCE

If you lost your little black book with all those confidential numbers, you might get in trouble. Not so with the Directory. Without knowing the specific initials or name, you can't access the numbers.

And then there's convenience. You carry your calculator with you anyway. Why not add the convenience of a telephone directory to a full-function calculator? When it comes to calculating, the Canon is no slouch either. There's a fully-addressable memory, square root, and an add-on discount percentage system.

EASY TO OPERATE

Just enter the name and number you want stored and press a few buttons. That's all there is to it. Changing an entry is just as easy. You can also store credit card numbers, important serial numbers, birthdays, and anniversaries. For example, enter the next birthday or important date you should remember under "DATE." This date will appear each time you enter the word "DATE." By getting in the habit of doing that each week, the Canon won't let you forget. Or have you ever been stuck at a phone booth with no pen to write your messages? With the Canon, you can enter them directly into your unit—name and number.

The Canon Directory is a new breakthrough in recent calculator technology. The large-scale integrated circuit is programmable by the user—something nearly impossible just a few short months ago.

TEST IT FOR A MONTH

Order the Directory. Quickly program it with 30 of your most frequently called numbers. (You'll be amazed at how many 30 numbers seem when you sort out your personal directory.) Then use it every day. Program those important dates, your social security number, the phone numbers of your favorite restaurants, airlines, or movie theaters. Test the batteries by leaving your unit on for a week.

See how easy it makes life. Then within 30 days, decide if you want to keep it. If not, no problem. Just slip it in its handy mailer and send it back. We won't be upset, and in fact, we'll thank you for at least giving our unique product a test.

JS&A is America's largest single souce of space-age products—a substantial company which has been in business for over a decade. Canon is the famous company that manufactures quality cameras, calculators, and other precision quality instruments.

If service is ever required, just slip your three-ounce unit in an envelope and mail it to Canon's national service-by-mail center. It's just that easy. Service should never be required since practically all components are on a single integrated circuit, but we wanted to assure you that a service program is an established part of Canon's program. The unit is 2¾"x 5½" and only one centimeter thick.

To order your own Canon Directory, send **$69.95** plus $2.50 for postage and handling to the address below (Illinois residents, please add 5% sales tax), or call our toll-free number below. By return mail you will receive your unit, a handy wallet-style carrying case, and a one-year limited warranty.

This year, let the sophistication of space-age technology and your fingers do all the walking. Order your Pocket Yellow Pages at no obligation, today.

Home Video Tape Movies

Enjoy movies in the convenience of your home with your own personal movie library.

Look on the order form for a list of movies or write for currently available titles. All films are specifically licensed by the film studios for use on home video tape recorders.

One of the ways to expand the use of your video tape recorder is by having a library of movies to view for home entertainment.

If you already own a VTR and want to record a movie from your TV, there are a few disadvantages. If you want to record while you're away from home, you'll have several hours of commercials to sit through when you eventually play it back. If you decide to weed out the commercials while you record, you'll find it no fun trying to catch the commercials and then manually dovetailing the movie segments.

Finally, most films are edited for TV anyway, so often you don't really see the full movie. Even if you own a pay-TV movie circuit, you still are at the mercy of editing practices.

The VTR tapes we offer are full-length movies you can keep in a library and play in their entirety. You can play these movies at parties or for your own personal enjoyment. You select exactly what you enjoy. You can play *Doctor Doolittle* at your young child's party or invite your neighbors over for an evening of *Patton*.

As your library grows, so does its value. If your friends own tapes, you'll be able to swap. Take a look at the tapes available. Each single reel tape is **$50**, and double reels are **$70**. We also have a blank tape program. (See prices on order form.) Postage and handling is $2.00 per order.

Each of the video tapes can be ordered in either the BETA or VHS format. If you are not sure of the system, just list the name of your video tape recorder, and we will send you the correct tape. These tapes are not returnable under our 30-day trial period.

Why not order a few movies so you can experience for yourself the convenience of your own home movie theater.

The Sanyo video tape recorder with three hour recording capability.

the VTR Revolution

Here's the story on the most popular new video trend since color TV.

VTR's (video tape recorders) are one of the fastest selling new products. Here's why:

1) With a VTR, you now control your time. There is no need to be tied to your TV in order to watch a specific show. You set your VTR to a specific time and channel and leave. The unit records your favorite programs and is ready to play them back whenever you wish.

2) Now you can watch feature-length uninterrupted movies in the comfort of your home from the selection of movies shown on the left. Have a party. Invite your best friends, make some popcorn, and enjoy the entertainment.

3) With a VTR you can control your children's viewing habits. You can record educational and informative programs—from cartoons to documentaries—and play them back whenever you wish.

4) Great moments of history can be captured, recorded and saved for viewing later. You won't appreciate this feature until you've had your VTR for a while and replay some of your early recordings.

You attach a VTR to any TV in a matter of minutes and recording is really a snap.

TWO TYPES OF VTR

There are two VTR systems currently available. One is the BETA and the other is the VHS. BETA tapes cannot be played on a VHS player and vice versa.

There is no clear-cut trend towards either system, and it is almost a matter of brand name when it gets down to the final decision by the consumer.

JS&A has examined all the units available and has selected the Sanyo BETA VTR as the best from both technical and performance criteria.

WHY WE SELECTED SANYO

We selected the Sanyo BETA system for several technical reasons. But rather than being very specific, we can summarize our findings with three points:

1. We chose the BETA system because of the design of the tape transport mechanism which puts considerably less strain on the video tape than does the VHS mechanism.

2. We chose the Sanyo BETA system because of the quality of its components. Sanyo has built an excellent reputation in the commercial VTR field, and they use many of the heavy-duty components in their new version.

3. The Sanyo has a three-hour capacity, excellent VTR features, and is fully compatible with other BETA systems.

There are many features that make the Sanyo BETA system the finest you can buy. They include: Solid-state digital clock/timer for unattended recording • Automatic shut-off with "sleep" switch • Memory counter that stops your tapes automatically at a predetermined point • Camera and microphone inputs for live recording • Audio jack so you can enjoy your TV sound from your stereo system • Quick installation (you can do it yourself in a few minutes).

Sanyo has strategically-located service centers in all major cities to ensure that your unit functions without interruption. The cost for this outstanding system is only **$995** complete with all connections, a one-year parts and labor warranty, and a free movie from our film library to the left. Use the system in your own home. Record your favorite programs, or play some of the movies we offer. If for any reason you are not satisfied, you may return your unit to us for a prompt and courteous refund(4.50).

The tapes shown to the left cost **$50** per movie or **$70** for each two tape film. Simply list the free tape you wish with your VTR on the order form.

Join the VTR revolution. Order your Sanyo VTR at no obligation today.

402
elf

Radio Control Technology

Major cost breakthroughs have produced exciting new products at affordable prices.

Radio control racing is fun. And if you doubt it, just take a trip to one of the races sponsored by a nearby shopping center.

Thanks to today's new semi-conductor technology, the costs for this sport have plummeted. From as much as $500 just a few years ago, the same features can be bought today for as little as $120.

The following are four of the new radio-controlled products that will give some lucky child or adult years of fun.

THE SCANDANAVIAN RACING BOAT

The yellow boat to the left is an exact replica of the Scandanavian racing boat used on the Atlantic Ocean by some of Sweden's leading racers. The original version is so fast that it requires two drivers whose casualty rate is the highest in boat racing.

The replica comes complete with its own stand so that when you're not using the boat, it makes an excellent display in any child's room or in any executive's display cabinet. The boat is controllable from a distance of 500 feet and travels at a speed of 7 MPH. It is ideal for swimming pools or small bodies of water where close-range control is possible. The boat will be available in June, and you can order it now for only **$69.95** ($3.50). It measures 5"x 16", and the deck flips open for easy battery replacement. Standard "C" cell batteries are supplied with the boat.

There is a larger 30" version of the same boat that goes 30 MPH and is controlled by a powerful 500-milliwatt transmitter. The boat comes complete with rechargeable batteries and is designed for lakes or larger bodies of water. It has a range of a quarter of a mile, and its motor is the most powerful allowed by the International Model Racing Association. It, too, will be available in June at a cost of only **$150.**($4.50).

Both boats come with complete instructions and a 90-day warranty. You may order them now for delivery in June by simply leaving a deposit order with us for $25 per boat ordered, or give us your credit card number and we will not bill you until we ship your boat.

THE MUSTANG COBRA

The Mustang Cobra is a 7-MPH 5"x 13½" replica of Ford's very successful racing car. It has independent suspension, so it takes bumps and turns just like a real car. It comes complete with the remote control unit, batteries, and a 90-day warranty. The optional trailer on the back is only **$4.95**. Just try backing the car up with the trailer attached. It's lots of laughs. There are also provisions for rechargeable batteries (a complete set is only $19.95 complete with charger), and you can select from four racing stripes: red, silver, black, and yellow. Each has its own frequency so that four cars can race simultaneously. The cost is only **$49.95** ($2.50).

THE POWERFUL CORVETTE

A new 30-MPH Corvette (shown to the left) with racing slicks that actually smoke after a good race is also available for only **$120** ($4.00). This incredibly fast car comes complete with a powerful engine, a 500-milliwatt transmitter with a quarter-mile range, and a set of rechargeable batteries. It measures 7"x 16" and weighs approximately 5 pounds. The car is instantly responsive. You can't appreciate the thrill of radio-controlled racing until you've driven your very own 30-MPH Corvette.

Both cars are made out of Lexan—a high-impact plastic that can take tremendous abuse such as head-on collisions and end-over-end spills—all without damage to the body.

With each car or boat, we will send you the address of the International Model Racing Association. You can then find the name of your local racing club and join in the next event. Each model boat or car comes in four different frequencies so you can race them against each other.

Trying to back up with the trailer attachment for the Mustang Cobra provides a real challenge. The attachment is only $4.95 and comes complete with all hardware.

Today's new semi-conductor technology has made possible a powerful new category of radio-controlled products. You can look forward to a very enjoyable summer by ordering one at no obligation, today.

the World's Finest Digital Watches

Your digital watch is either too thick, uses up batteries quickly, has just a few functions, or is hard to read under certain lighting conditions. You still have to press a button, flick your wrist, or hold your watch at just the right angle to read the time.

The digital watch industry has gone through four years of rapid change, but the disadvantages cited above have finally been resolved in one totally new product—the Sensor Laser 440 Digital. The Laser 440 is so different that it represents a dramatic departure from conventional digital waches.

NO BUTTON TO PRESS

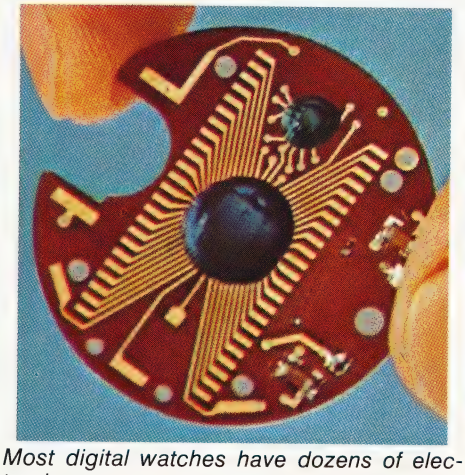
There is no button to press since the display glows in the dark. A glass ampoule, charged with tritium and phosphor and sealed by a laser beam, is placed behind the new CDR (crystal diffusion reflection) display. When room lights dim, the self-contained tritium light source will compensate for the absence of light by glowing brightly and illuminating the display.

No matter when you wear your watch—day or night— just a glance will give you the correct time. There's no button to press, no special viewing angle required, and most important, you don't need two hands to read the time.

BATTERIES LAST LONGER

The Laser 440 is only 8 millimeters thick—thinner than many of the so-called thin digitals being advertised today. The new CDR display draws 100,000 times less current than an LED watch when displaying the time, so your single commercially-available Union Carbide battery lasts years longer. In fact, part of our warranty includes all the batteries you'll ever need, free of charge, for five full years. Any jeweler can easily change your batteries as an easy-to-remove cover is located on the back of the precision case.

And if you've owned a digital watch for a year, chances are you've had it in for repair more than once—a very common consumer complaint. The Laser 440 is so service-free and has such high quality that it should rarely, if ever, require service. It is backed by a solid five-year warranty—your assurance of our commitment to this outstanding new product.



Most digital watches have dozens of electronic components. The Laser 440 has only six: two integrated circuits, a crystal and three micro-capacitors. All components are bonded directly on the printed circuit board. By hermetically sealing the integrated circuits and using fewer components, the Laser 440 is more reliable than other watches that do not have this total integration.

The Laser 440 has both time and stop watch functions. Six digits are on display—four large digits and two small ones. You choose between hours, minutes, and seconds or hours, minutes, and date by pressing a button. The Laser memory remembers the number of days in a month and resets automatically on the first day of the new month.

The 440 is also available in an 11-function chronograph (stop watch) and is truly the ultimate Laser timepiece. You can time two separate laps of a multilap race keeping one lap in memory. You can accumulate time. You can view the time of one lap while continuing to time a lap stored in memory. As a business executive, you can time long-distance phone calls and interviews. Lawyers can keep track of their services, and doctors can time the vital signs of their patients. Even while the chronograph is functioning, you can still view the time—something even many of the expensive digital chronographs cannot do.

BUILT DIFFERENTLY

All wires have been replaced with circuitry printed on one single thin surface. On this same surface are two integrated circuits which use gold contacts and are hermetically sealed to protect their several thousand micro components. The American-made Laser is shock resistant and uses a tough mineral glass crystal to protect the rugged electronics from the everyday water and humidity tortures a watch is normally subjected to.

NEW QUARTZ BREAKTHROUGH

Digital watch accuracy depends on the quartz crystal. Even the best crystals change frequency with shock or age (especially when first produced). The Laser 440 uses the new and very expensive tuning fork crystal. It is first aged so that it does not shift frequency more than five parts per million per year (more accurate than most radio or TV time signals). The extreme accuracy you expect is built into your watch from the first day you wear it. The crystal is cushioned and solidly bonded to the crystal carrier, thus eliminating all fine wires that may break from shock. In short, the advanced design of the crystal will assure guaranteed accuracy to within 5 seconds per month—year after year after year.

The Laser 440 is the ultimate instrument for anybody who wants unquestionably the finest digital watch ever offered at any price.

MATCHING LADY'S MODEL

The matching lady's digital for the Laser 440 is shown above. Called the 460, it features time, date, and seconds and has the same tritium and phosphor backlighting system featured on the men's model. There is no button to press at night since the display glows in the dark. The 460 comes in either gold-tone or silver-tone complete with handsome gift box and five-year limited warranty.

HOW WE PROVIDE THE FINEST SERVICE

Can our company provide better service than even your local jeweler? We think so. If your Laser malfunctions during its unprecedented five-year warranty, just call us on our toll-free line. We will make arrangements with United Parcel Service to pick up your Laser at your door, at our expense, and we will give you a loaner watch to use while your Laser is being repaired. You pay nothing to have your watch serviced during its five-year warranty (that is, if service is ever required), and we are as close as your phone or door.

STANDING BEHIND A PRODUCT

The Laser 440 is everything you would want in a digital watch: a major advance in digital watch technology, all the really important functions you'll need, a service contract so solid that you'll never have to leave your home if service is ever required, and a product of unsurpassed quality and accuracy. But it is only after you receive it that you will be convinced of

its beauty, its design, its fit, and the accuracy of our claims. For that reason, we give you a one-month trial period. Wear the Laser 440 for one full month. Check its accuracy, its feel, and show it to others. Compare it to all other digitals. If you are not totally convinced that the new Laser is the finest digital watch at any price, then return it for a prompt and courteous refund.

HOW TO ORDER

To order your Laser 440 for a personal trial, credit card buyers may simply call our toll-free number or send us your business or personal check. The Laser will be sent to you promptly by United Parcel Service unless you specify otherwise.

The Laser 440 is not only thin but is designed to conform to the contour of your wrist. A bulky digital watch can become annoying to wear if you have a thin wrist.

The expensive metal bracelet has the equivalent of 92 finely-hinged links and is completely adjustable. Simply slide the adjustment mechanism to the most comfortable position on the band for your wrist size and lock it into place. Then, whenever you have to put on your watch, simply hook the strap into the already pre-set adjustment mechanism and snap it shut. It's fast and simple and gives you the most comfortable fit of any watch by conforming to the contour of your wrist.

A REVOLUTION IN TECHNOLOGY

There is a revolution taking place in the watch industry. Some digitals are getting thinner, some have dozens of new functions, and some claim exceptional visibility. None have all the features in one quality timepiece. The new Laser 440 does. Order yours at no obligation, today($2.50).

Silver-tone with Time and Date	**$139**
Gold-tone with Time and Date	**159**
Silver-tone with Chronograph	**199**
Gold-tone with Chronograph	**219**
Lady's Silver-tone	**139**
Lady's Gold-tone	**159**

Two of the best Sensor values with the quality and features designed for the lady.

The new Lady Sensor 670 is our most popular lady's watch. It is now available with our famous backlighting system. The very elegant design displays hours and minutes constantly—day and night. Depress the time button, and the month and day show. A few seconds later, the date automatically reverts back to the time. Want the seconds? Just press the button twice, and the seconds are displayed.

The Lady Sensor 670 was designed as an elegant piece of jewelry with all the technology of the famous men's models.

An extremely attractive gift for any occasion, the Lady Sensor is one of our most advanced digital designs. Free batteries are supplied for the next five years, and each watch is accompanied by our five-year limited warranty. You couldn't purchase a better lady's watch. Only **$79.95** in stainless steel and **$89.95** in the gold-tone models.Add $2.50 for postage.

Laser technology and a unique piece of jewelery.

This space-age pendant is a fine piece of jewelry encircling a three-dimensional object. The object glistens in an iridescent rainbow of reds, yellows, blues, and greens. But hold the pendant up to a light and the object practically disappears. It's a three-dimensional process created by a laser beam, and it's the perfect unique gift for any age group. Available in either "Gold Dollar" or "Watch Works" models with chain **$20** ($1.00).

The Security Switch

A new switch dynamically controls your lights and adds a touch of space-age elegance to any home.

It's just another very clever application of solid-state technology to a new area.

You know those security timers that turn your lights on and off while you're away? They are supposed to be a deterrent to burglars and vandals because they give your home a lived-in appearance.

But any halfway experienced burglar can see the difference between the lights you use when you're home and the lights you use when you're away.

Now a new space-age device programs your lights to respond to a pre-determined, yet random living pattern. And unlike the devices that fit into an electrical outlet, this device simply slips into your existing wall switch.

A built-in LED digital clock displays the time. When you leave, you turn the switch on. You can choose between five different programs depending on the room you're in. Just as you would set an LED watch, you tell the built-in micro-processor which room you're in by entering a number. Then the lights controlled by the switch in that room turn on and off just as if the room were being used on a daily basis.

Because it's random, the unit will turn on and off at varying times on different days but always during the approximate times programmed for that day.

To install the unit, you simply turn off the fuse for that outlet, remove your present light switch, and replace it with the new one. There's no soldering required – just screw on a few wire nuts and you're finished.

The switch can be overridden by just pressing a button to turn on the light. One of the nice features of the system is its appearance – that of a space-age switching system which is sure to be a conversation piece in any room.

The only drawback to the system is that in the event of a power failure, the lights go on and stay on after the power outage. But this could also be considered an advantage as it would warn your neighbors to stop by and check out your home.

The Hutec security switch costs only **$39.95** ($2.00), and it is well worth a test. If the test works, order them for your entire home. Even if they just replace your existing switches, you'll have the only home on the block with a digital watch in each one of your light switches. Order one at no obligation, today.

Auto Surveillance Paging System

Protect your car silently with a new breakthrough in auto protection.

Car alarms have always caused problems. A false alarm might catch you inside a building where you can't hear the alarm. Meanwhile, it wakes up the entire neighborhood. During a real robbery, an alarm only makes the burglar work faster.

The new Page Alert system is the first really smart and inexpensive way to protect your car. You carry a small 4-ounce paging unit with you similar to the familiar pocket pagers. If somebody breaks into your car, your pager beeps to alert you. You can then call the police or investigate the situation. Often the burglar can be caught as he unsuspectingly rummages through your car, or the car thief can be stopped as he tries to cross your ignition wires.

The signal you receive is generated by a powerful 500-milliwatt transmitter that has a range of one-half mile. You can be in a house blocks away and still pick up the signal. The transmitter is simply plugged into your cigarette lighter, and a door sensor is stuck on the hinged portion of your door with pressure sensitive tape. You can install the complete system in less than a minute.

Each signal is individually coded with a dual tone sequential coding system. Since there are over 12,000 possible combinations, the chance of someone else triggering your pager is highly unlikely.

When you leave your car, you have full confidence that your car is well protected. If you elect to attach a siren or horn, there is a connection that can be used for that purpose.

Owning a CB radio is no fun when you constantly have to remove it from your car. Now you can leave your radio and other possessions in your car and know they will be protected without all the disadvantages of a typical alarm system. Order your Page Alert system from JS&A at no obligation today. Only **$99.95** ($2.00).

SMOKE DETECTOR WITH A BRAIN

The Nose

A new computerized fire and smoke detector continually sniffs the air, measures danger and sounds a new alarm.

It's proven. A fire and smoke detector saves lives, and if you want to own the very best detector with computer circuitry and solid-state alarm, this advertisement is important.

The new JS&A computerized fire and smoke detector is a breakthrough. The unit's integrated circuit takes the dozens of other conventional detector components and reduces them to only a few—a potentiometer, one capacitor and one LED warning light. With fewer components there's less chance of failure. And the integrated circuit also measures the smoke and triggers the solid-state alarm.

NEW SOLID-STATE ALARM

The solid-state alarm replaces the electromechanical alarms on other fire and smoke detectors. The big advantage here is its reliability, the very low power drain, and the loud sound. Your alarm will sound louder longer, use less battery power, be more efficient, and your single 9-volt battery will last much longer.

The JS&A alarm produces a loud 85db sound at a distance of ten feet with only 12 milliamps of current. With elecromechanical alarms, it takes 75 milliamps to produce an 85db sound or six times the power of the JS&A unit to do the same job.

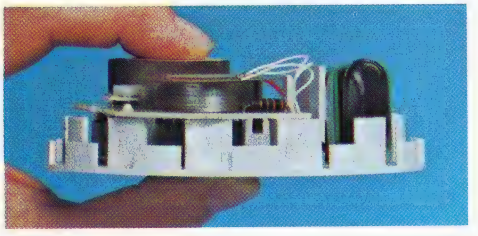
The most dramatic difference is the start-up power required to trigger the alarm. In a standard smoke detector, the alarm requires approximately 300 milliamps during start-up. In the JS&A unit only 12 milliamps—or 25 times less power is required. Even if your batteries are practically expired, the JS&A unit can still operate efficiently.

AUTOMATIC TEST PROGRAM

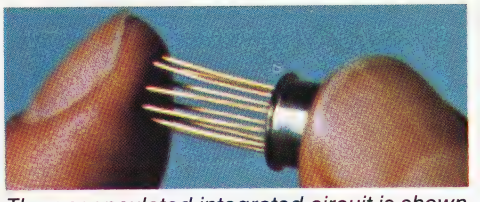
The unit also has a testing system that does more than just warn you when the battery gets low. The unit will chirp every minute every day for one month to indicate that the battery needs changing. Even in an emergency the JS&A will still function perfectly during this chirping period. You can then easily remove the cover and replace the 9-volt battery. There is also a test circuit to test the alarm. Just touch the side of the unit with a broom handle and the alarm will sound—also perfect for fire drills.

SENSITIVE SENSING SYSTEM

The nose or sensing system of the unit has two chambers. The first chamber is sealed and is used as a reference. The second is open and continually tests the air in the room.



Only 4½ inches in diameter, the new JS&A unit has almost all of its components condensed on one integrated circuit. Shown above is the unit from a side view showing the solid-state alarm and the battery holder.



The encapsulated integrated circuit is shown above. This is the key to the breakthrough that makes the new JS&A detector one of the most reliable products on the market.

Each chamber contains a space-age element called Americium. This element ejects small alpha particles of harmless ionized helium atoms which charge the air in both chambers. If smoke enters the open chamber, the charged particles decrease. The small computer circuit then measures the decrease of change in the charged particles and compares the change with the sealed reference chamber. Even if the charge drops one millionth of a percent, the computer will sense the change and trigger the alarm. The system's computer will still differentiate between a real fire and cigarette smoke unless the cigarette smoke is blown directly into the unit.

HIGH RELIABILITY

The JS&A smoke detector is so reliable that it passes the military performance specification 880. Each unit is thoroughly tested and "burned in" before it is packaged. We designed the JS&A unit for quality. It is not the cheapest unit on the market—but then we felt that reliability and confidence in an early warning security system were more important than skimping to save a few dollars and producing something second best.

DON'T BE CONFUSED

The JS&A detector gives you a new and better choice—the totally solid-state detector. It is the latest development in the computerization of previously conventional systems—a great boost for dependability and efficiency. Don't be confused. You can't buy a better fire and smoke detector.

NO INSTALLATION REQUIRED

There is no installation required. Just attach the JS&A detector on your ceiling with pressure sensitive tape supplied with each unit.

The JS&A detector is small due to its few components and small integrated circuit. It measures only 4½ inches in diameter and 1 inch deep and weighs only 5½ ounces so it is less obvious than any other detector and it doesn't require the expensive alkaline batteries that other detectors require. An ordinary 9-volt battery will last over a year, whereas an alkaline battery will last almost two years.

Service should never be a problem. If, however, your tests indicate a defect, JS&A will replace your unit with a brand new one during our one year limited warranty.

To order your JS&A fire and smoke detector, credit card buyers may call our toll-free number or send a check for **$29.95** plus $2.50 for postage and handling. Units are in stock and will be shipped immediately.

Let the latest space-age technology protect your home with confidence. Order your JS&A fire and smoke detector today.

Burglar Alarm Breakthrough

A new computerized burglar alarm requires no installation and protects your home or business like a thousand dollar professional system.

It's a security system computer. You can now protect everything—windows, doors, walls, ceilings and floors with a near fail-safe system so advanced that it doesn't require installation.

The Midex 55 is a new motion-sensing computer. Switch it on and you place a harmless invisible energy beam through more than 5,000 cubic feet in your home. Whenever this beam detects motion, it sends a signal to the computer which interprets the cause of the motion and triggers an extremely loud alarm.

The system's alarm is so loud that it can cause pain—loud enough to drive an intruder out of your home before anything is stolen or destroyed and loud enough to alert neighbors to call the police.

Unlike the complex and expensive commercial alarms that require sensors wired into every door or window, the Midex requires no sensors nor any other additional equipment other than your stereo speakers or an optional pair of blast horns. Its beam actually penetrates walls to set up an electronic barrier against intrusion.

NO MORE FALSE ALARMS

The Midex is not triggered by noise, sound, temperature or humidity—just motion—and since a computer interprets the nature of the motion, the chances of a false alarm are very remote.

An experienced burglar can disarm an expensive security system or break into a home or office through a wall. Using a Midex system there is no way a burglar can penetrate the protection beam without triggering the loud alarm. Even if the burglar cuts off your power, the four-hour rechargeable battery pack will keep your unit triggered, ready to sense motion and sound an alarm.

DEFENSE AGAINST PEEPING TOMS

By pointing your unit towards the outdoors from your bedroom and installing an outside speaker, light, or alarm, your unit can sense a peeping Tom and frighten him off. Pets are no problem for the Midex. Simply put them in one section of the house and concentrate the beam in another section of the house.

When the Midex senses an intruder, it remains silent for 20 seconds. It then sounds the alarm until the burglar leaves. One minute after the burglar leaves, the alarm shuts off and resets, once again ready to do its job. This shut-off feature, not found on many expensive systems, means that your alarm won't go wailing all night long while you're away. When your neighbors hear it, they'll know positively that there's trouble.

PROFESSIONAL SYSTEM

Midex is portable so it can be placed anywhere in your home. You simply connect it to your stereo speakers or attach the two optional blast horns.

Operating the Midex is as easy as its installation. To arm the unit, you remove a specially coded key. You now have 30 seconds to leave your premises. When you return, you enter and insert your key to disarm the unit. You have 20 seconds to do that. Each key is registered with Midex, and that number is kept in their vault should you ever need a duplicate. Three keys are supplied with each unit.

As an extra security measure, you can leave your unit on at night and place an optional panic button by your bed. But with all its optional features, the Midex system is complete, designed to protect you, your home and property just as it arrives in its well-protected carton.

The Midex 55 system is the latest electronic breakthrough by Solfan Systems, Inc.—a company that specializes in sophisticated professional security systems for banks and high security areas. JS&A first became acquainted with Midex after we were burglarized. At the time we owned an excellent security system, but the burglars went through a wall that could not have been protected by sensors. We then installed over $5,000 worth of the Midex commercial equipment in our warehouse. When Solfan Systems announced their intentions to market their units to consumers, we immediately offered our services.

In a recent issue of a leading consumer publication, there was a complete article written on the tests given security devices which were purchased in New York. The Midex 55 is not available in New York stores, but had it been compared, it would have been rated tops in space protection and protection against false alarms—two of the top criteria used to evaluate these systems. Don't be confused. There is no system under $1,000 that provides you with the same protection.

YOU JUDGE THE QUALITY

Will the Midex system ever fail? No product is perfect, but judge for yourself. All components used in the Midex system are of aerospace quality and of such high reliability that they pass the military standard 883 for thermal shock and burn-in. In short, they go through the same rugged tests and controls used on components in manned spaceships.

Each component is first tested at extreme tolerances and then retested after assembly. The entire system is then put under full electrical loads at 150 degrees Fahrenheit for an entire week. If there is a defect, these tests will cause it to surface.

PEOPLE LIKE THE SYSTEM

Wally Schirra, a scientist and former astronaut, says this about the Midex 55. "I know of no system that is as easy to use and provides such solid protection to the homeowner as the Midex. I would strongly recommend it to anyone. I am more than pleased with my unit."

Many more people can attest to the quality of this system, but the true test is how it performs in your home or office. That is why we provide a one month trial period. We give you the opportunity to see how fail-safe and easy to operate the Midex system is and how thoroughly it protects you and your loved ones.

Use the Midex for protection while you sleep and to protect your home while you're away or on vacation. Then after 30 days, if you're not convinced that the Midex is nearly fail-safe, easy to use, and can provide you with a security system that you can trust, return your unit and we'll be happy to send you a prompt and courteous refund. There is absolutely no obligation. JS&A has been serving the consumer for over a decade—further assurance that your investment is well protected.

To order your system, simply send your check in the amount of **$199.95** or credit card buyers may call our toll-free number. Please add $2.50 per order for postage and handling. By return mail you will receive your system complete with all connections, easy to understand instructions and a one year limited warranty. If you do not have stereo speakers, you may order the optional blast horns at **$39.95** each, and we recommend the purchase of two.

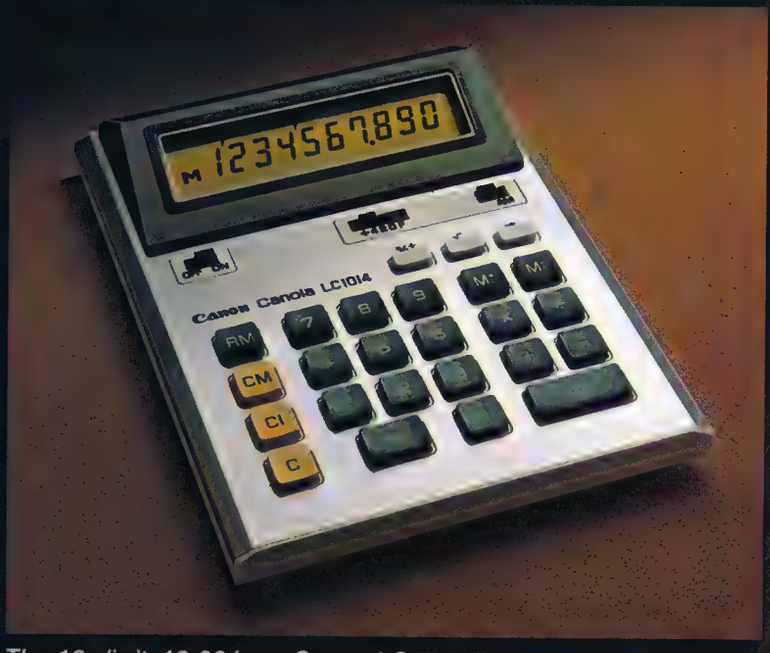
With the Midex 55, JS&A brings you: 1) A system built with such high quality that it complies with the same strict government standards used in the space program, 2) A system so advanced that it uses a computer to determine unauthorized entry, and 3) A way to buy the system, in complete confidence, without even being penalized for postage and handling charges if it's not exactly what you want. We couldn't provide you with a better opportunity to own a security system than right now.

Space-age technology has produced the ultimate personal security computer. Order your Midex 55 at no obligation, today.

The Kosmos compatibility biorhythm calculator.

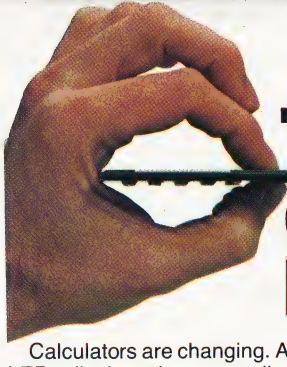
The Casio MQ-2 stop watch, travel alarm calculator.

National's NS104 calculator, world clock and stop watch.



The 10-digit, 10,00 hour Canon LC1014 liquid crystal calculator.

National's NS103 triple memory checkbook calculator.



The New Calculator Revolution

Calculators are getting flatter, smaller and are doing more. Here is a report on the latest trends.

Calculators are changing. All but gone is the LED display—those small red digits that you've always associated with calculators. Replacing the LED display are liquid crystal digits which are larger, easier to read, and require a mere fraction of the power the older LED displays required.

THE SIZE BREAKTHROUGH

Advancing technology has reduced nearly all the previously complex components onto a single integrated circuit, so calculators are now thinner, smaller, and thus easier to carry with you at all times.

The first fatality of the new crop of calculators is the calculator watch which was developed as a better way to keep a calculator handy. Since the new generation of calculators are inexpensive and so small that they can almost be carried in your wallet, the calculator watch is now more a gimmick than a positive contribution to technology.

THE BATTERY LIFE BREAKTHROUGH

The other new breakthrough feature is long battery life. The new liquid crystal displays use much less power than the LED's. The batteries are therefore smaller, more easily replaceable, and last as long as 10,000 hours without replacement. The savings in batteries alone now justify the purchase of a new calculator.

THE NEW FUNCTIONS

The new calculators do a lot more. They can tell you the local time as well as the time anywhere else in the world. They have built-in alarms, stop watches, and memories. They even remember checking account balances after you shut them off.

Just about everybody who needs a calculator already has one. But with the latest breakthroughs in calculator technology, a whole new market has developed. Convenience, savings, and the opportunity to give a unique gift have again brought increased sales to the few calculator manufacturers left.

JS&A was the first company to introduce and mass market the first pocket calculator in 1971 and the first liquid crystal calculator in 1974. During the past seven years, we have introduced every major calculator breakthrough. After reviewing hundreds of units during the past few months, the products described below were carefully selected by JS&A as the best examples of this new calculator technology.

A GOOD DESK CALCULATOR

There seems to be a trend towards a good dependable desk calculator that is large enough to be easily used on your desk yet small enough not to clutter it. Canon has just introduced the new model shown to the left.

The LC1014 is a 10-digit, large-display, liquid crystal calculator with a four-key accumulating memory, square root, and both fixed and floating decimal point options. Commas position themselves at the top of the display at intervals of three digits to make it easy to read large numbers, and a back-space key permits you to back out incorrectly entered digits one digit at a time. The unit measures 5½"x 7½" and fits firmly and attractively on your desk. JS&A's price is only **$59.95** ($2.50).

The LC1014 features a major breakthrough in battery life technology. A set of four ordinary penlight AA cell batteries will last for 10,000 hours. Translated into months, that's over 13 months of solid use without shutting your unit off. Canon scientists took the same integrated circuit technology used in liquid crystal watches and applied it to calculators. This means your batteries will probably last as long as their shelf life (three to four years), so the AC adapter and the on/off switch are now obsolete. The Canon LC1014 is, in our opinion, an outstanding product and value.

Canon used the same technology in a super-thin calculator, the model LC5 shown above. JS&A's price is only **$29.95** ($2.00), and it too will last over 10,000 hours before battery replacement is required. The unit features percentage and memory and is the thinnest calculator we have ever seen. It measures only a few millimeters thick. Availability will be in late April. This is the first public announcement for this fine product.

THE CASIO MQ-2

The new Casio MQ-2 is a very small, lighter-sized unit with a built-in digital watch, alarm, stop watch, and calculator. The practical uses are numerous. You can time your parking meter and remind yourself to take your pills, move your lawn sprinklers, or prepare for appointments. You can use it as a pocket watch to tell the time or as a travel alarm to wake you up. You can time sporting events and travel times or use it as you would any stop watch accurate to within 1/10th of a second.

The unit is also a perpetual calendar which even adjusts for leap years. You can figure the number of days between two different dates, so you can do everything from amortization tables to biorhythm calculations. And you don't need an engineering degree to figure it out. A simple five-function, eight-digit calculator and five other function buttons are all you use, and it takes just a few minutes to learn. The new Casio unit combines every practical application of new calculator technology into one single two-ounce unit only ⅜"x 1¼"x 4⅜" costing only **$59.95** ($2.00) complete with handsome case and gift box.

TRIPLE MEMORY CHECKBOOK

Other calculator breakthroughs include the triple memory checkbook calculator unit from National Semiconductor. Even with the unit turned off, it will retain, in memory, the balances in your checking account and in two charge card accounts. Whenever you withdraw from your checking account or charge an item to your credit card, you recall the balance you have in that memory onto the liquid crystal display. You then subtract the check or add the credit card charge, and your new balance is stored until you're ready for the next transaction. You can use the unit as you do any calculator since it is also a full five-function calculator. This way, you have extra flexibility. The unit is 7.5mm thin and is the size of a personal check. It comes with checkbook holder, pen, one-year limited warranty, and carrying case for only **$39.95** ($2.50).

BIORHYTHM COMPATIBILITY COMPUTER

The Kosmos biorhythm calculator does more than just tell you what biorhythm phase you're in. First, it's a full four-function calculator with a large green fluorescent display. Second, it tells you your biorhythms and those of your closest friend. Then the unit compares your biorhythms with your friend's and tells you how compatible you are.

On critical days, a red LED light glows. During low phases, a yellow light appears. You can check your biorhythms by scrolling forward day by day until you reach the day you're interested in. The entire system with a carrying case and a full explanation of biorhythms is only **$49.95** ($2.00). There's also an optional AC adapter for only **$4.95**.

WORLD CALCULATOR CLOCK

Probably the most spectacular of the new units is National Semiconductor's new NS104 electronic world calculator clock. It has practically all the features of the new generation of calculators with a few unique ones of its own.

It is a digital clock calculator and alarm. The clock maintains the time in 20 world time zones plus two active time zones. There are four independent alarms so you can key in specific times to remind you of appointments. It has a full 200-year calendar built in, so you can determine the number of days between dates and do date and time calculations. It has a forward and backward stop watch with split timing capabilities and the stop watch has a zero detection alarm. This means that when the time reaches zero, an alarm will ring.

The calculator is quite powerful too. There's a full five-function calculator with percentage, square root, and sign change key. There's a full four-key memory system, and the percent key has an add-on and discount feature. The eight-digit liquid crystal display will last for years on the same set of batteries.

If that's not enough, there's a small easel on the underside of the unit which enables you to prop it up for desktop use, and the unit's calculator keyboard is protected by a fold-open cover. The unit is small enough to fit in your pocket. It is only one centimeter thin and measures 3"x 5". The unit is being introduced here for the first time and will be available at the end of March for only **$69.95** ($2.00).

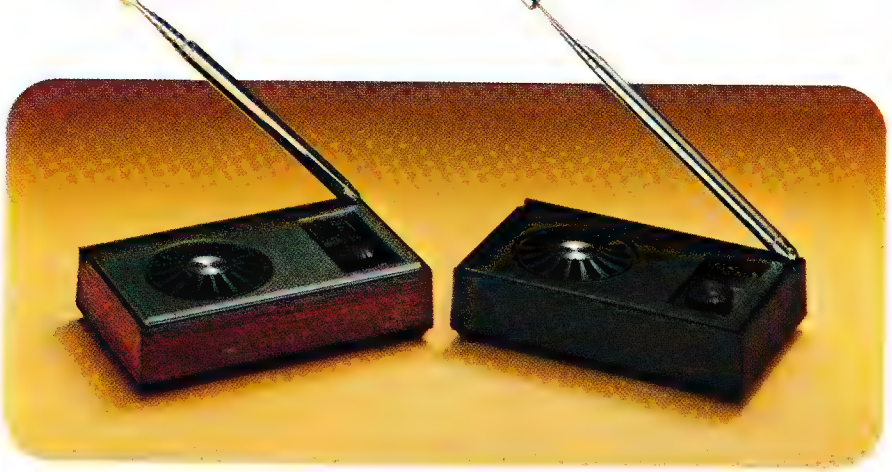
THE SERVICE BREAKTHROUGH

The new crop of calculators are practically service-free. With all the electronics condensed on a single integrated circuit and with the new technology, there is very little that can go wrong. Each calculator is backed by a limited one-year warranty.

WHY BUY FROM JS&A

There are good reasons to buy directly from JS&A. First, you have the opportunity of using the calculator under your everyday conditions before deciding whether or not to keep it. Not only is this convenient, but you are never penalized for the postage and handling charge if you decide to return your unit. Thirdly, you have a long trial period—thirty full days.

To order your calculators, specify the models and prices on our order form and submit a check, or credit card buyers may call our toll-free number. Join the new calculator revolution. Order a new generation calculator from JS&A at no obligation, today.



Weather Disaster Radio

A space-age Paul Revere alerts the public to an ever-present danger.

Broadcasting weather emergency information on a frequency not found on most radios sounds rather dumb. Yet that's exactly what the US government has spent millions to do.

Actually, it's rather clever and it works like this. The government reports the weather which is picked up by special radios tuned only to one specific frequency. Whenever there is a danger such as a tornado, hurricane, blizzard, or cyclone, the station emits a special tone.

On radios equipped to receive this frequency, that special emergency tone triggers an alarm on the radio. The user simply turns up the volume and listens to the details of the emergency.

The system has already saved many lives especially in the Gulf and coastal areas and in high tornado-risk regions. The national network is in reality the space-age version of Paul Revere's famous ride.

The most popular of the radios offered are the weather alert models shown here. Each radio is crystal-tuned to the correct frequency.

When you turn up the volume, you receive the national weather service broadcast 24 hours a day. In the event of an emergency, the unit sounds an alarm.

There are two models available. The first unit comes in a handsome black case and sells for **$39.95**. The second radio has a wood grain finish and a special alert system. If the emergency sounds and shuts off while you're taking a shower, you might not know the alarm sounded. The wood grain unit, however, also has a flashing lamp which continuously flashes until you shut it off. It sells for **$44.95**. There is an optional AC adapter available for both units at **$4.95**, although both units operate off of a 9-volt battery supplied with each unit. Please add $2.00 for postage and handling per order.

Even if you buy the Weather Alert Radio just to listen to the weather forecasts, it's a product well worth your investment. Order your new Weather Alert Radio at no obligation, today.

the New Portable TV

Now TV's are getting smaller in another new electronics trend.

There's a mini-revolution taking place in portable TV's. As more components shrink in size, a portable TV can be lighter, more power efficient, and have more options.

Of all the new TV's we've looked at, the Webcor is one of the most versatile. It has a compact 4½" screen, AM/FM radio, and a built-in charging circuit, so no separate charger is required if you decide to purchase the optional rechargeable batteries.

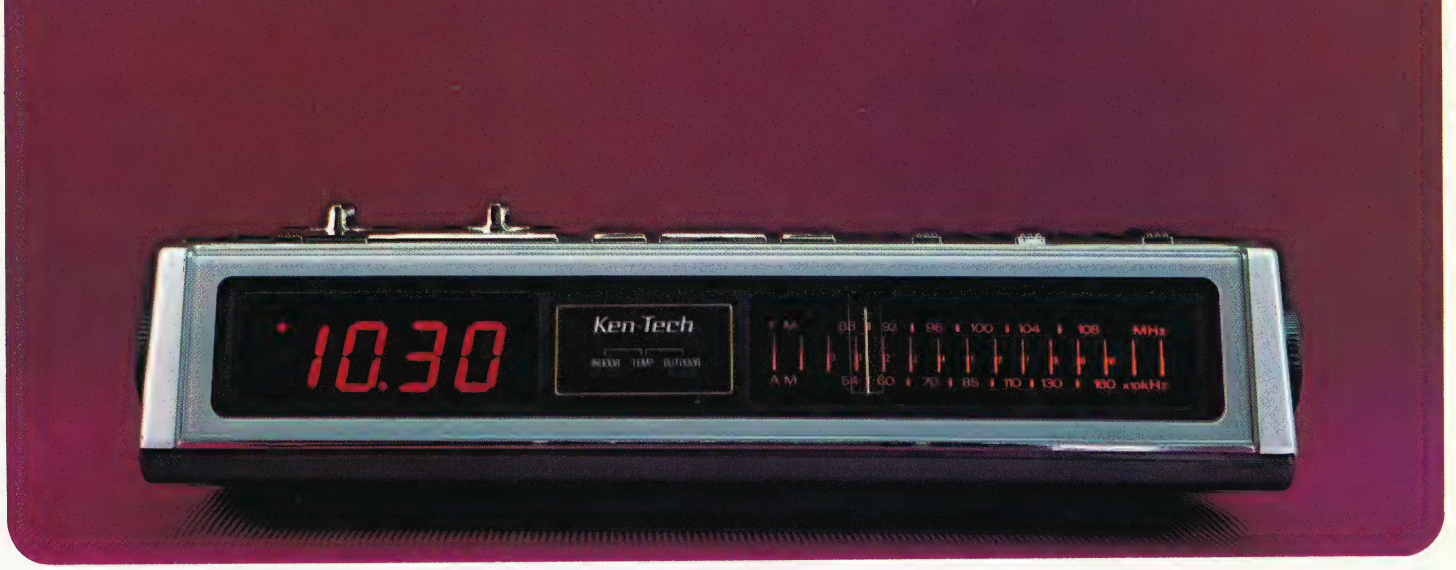
The unit features a new varactor tuner that eliminates the old conventional fixed TV tuners. You can zero in on any station perfectly, quickly, and on the exact frequency.

The unit has several features that add to its portability. First, it's only 5"x 10"x 10". Second, it features a prop-up easel to angle the unit when viewing, and finally, it comes with a heavy-duty, quick-latch carrying strap.

The unit weighs nine pounds with batteries so it's easy to carry, and you can view it even on a bright day since it also comes with a separate sun screen.

The entire system complete with sun screen, carrying strap, earphone plug, instructions, and one-year limited warranty costs only **$199.95**. Please add $3.00 per unit for postage and handling.

A separate rechargeable battery pack and car cigarette lighter accessory cord is available as an option for only **$49.95** with no additional postage and handling when ordered with the TV. When ordered separately, add $2.00 postage and handling.



Weather Reporter

Know the exact temperature outdoors and indoors with the world's first weather reporting clock radio.

Who cares about the temperature? We all do—especially when we get dressed in the morning. The temperature and one look out the window tell us how to dress for the day.

Now space-age technology has made it easy to read the exact outside temperature at the flip of a switch. The new KenTech Weather Reporter clock radio senses the outdoor and indoor temperatures and then flashes the readings on a large LED display.

UNIQUE OPERATION

A temperature sensing probe is placed outside your window, and another probe is located near your bed. The outdoor probe is shielded so even if the sun shines directly on it, the correct ambient temperature will be measured. This temperature reading is then transmitted to a newly-designed integrated circuit that converts the data to digital information and then to an LED read-out on the display. You can choose between Fahrenheit or Celsius and the indoor or outdoor temperature by simply sliding a switch on top of the unit.

The Weather Reporter operates from -40° to 122° Fahrenheit (-40° to 50° Celsius). If the temperature goes beyond those limits, the radio or temperature sensing system will not be damaged.

The wire from the temperature probe is thin enough to fit through most window frames, and there's a 24-foot wire to give you plenty of line to run. Both temperature probes simply plug into the back of the unit.

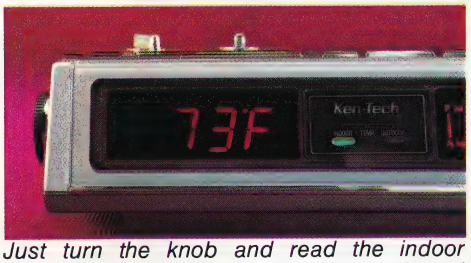
With the Weather Reporter, the temperature is read right at your home—not at some weather station ten miles away.

HIGH QUALITY RADIO

Please don't think that because of this unique new feature the radio portion is second rate. The KenTech Weather Reporter is an outstanding, high quality clock radio with a pleasant electronic alarm, a snooze button, a display dimmer (to turn down the intensity at night), and an outstanding speaker system.

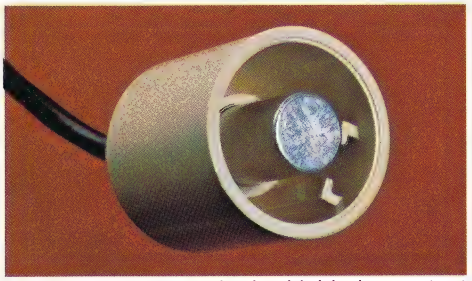
The radio has a 24-hour memory alarm. When you leave it in the "Auto" position, it will turn on, play for an hour, turn off, and then turn on again 23 hours later. There is no need to reset any controls as it's all programmed in the unit's memory.

The radio is a full-featured AM/FM unit with volume and tone controls, and the built-in antennas and fine tuning system will bring in the weakest signals with outstanding clarity. The unit has a beautiful wood grain finish with chrome and brushed aluminum accent pieces, measures a handsome 3"x 6"x 12", and weighs only four pounds. It's small enough to fit smartly on any night stand.



Just turn the knob and read the indoor temperature. Turn the knob again and read the outdoor temperature. Turn the knob again and you read the time.

The new KenTech Weather Reporter digital clock radio gives the time, temperature, news or music and all from one single unit.



The temperature probe is shielded to protect it from the direct rays of the sun. The unit shown above is 1¼ inches in diameter and is placed outside your window.

If you are interested in owning one of the finest clock radios available with the convenience of your own weather reporting system, we urge you to test the KenTech Weather Reporter.

SET UP A SYSTEM

Order one. Put it by your bedside, in your kitchen, or on your desk at work. When you get up in the morning, discover how nice it is to know the exact outside temperature. See how quickly the weather can change or test the accuracy of your local weather report.

Then within 30 days, decide if you want to keep it. If you do, you'll own, without question, one of the most unique clock radios ever produced—a product of the new space-age technology. If not, fine. Just send your unit back for a prompt refund which will also include the postage and handling charge. You can't lose, and we won't be upset if you return it.

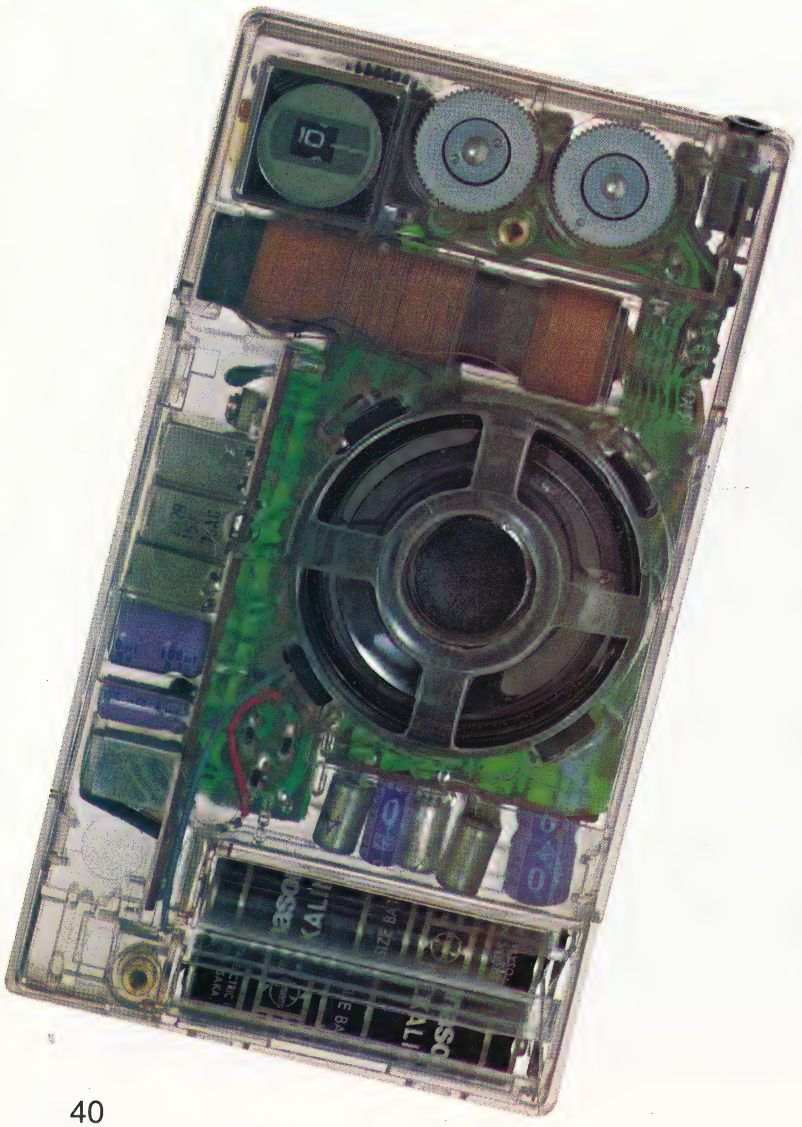
Kendall Technology is one of America's leading companies in digital clock technology and a leading manufacturer of digital clock radios—further assurance that your purchase is backed by a responsible company. Although there is very little that could go wrong with your unit because of its solid-state design, Kendall maintains a national service-by-mail facility.

To order your Weather Reporter clock radio, send your check for **$89.95** plus $2.50 for postage and handling, or credit card buyers may call our toll-free number. We will then send you your Weather Reporter complete with outdoor and indoor temperature probes, instructions, and a one-year limited warranty.

But act today. This advertisement is the first national announcement of this exciting new product. Order your KenTech Temperature Reporter at no obligation today.

the Mini Clock Radios

New technology creates a new concept.



There has been a quiet revolution taking place in the electronics industry. We have all heard about the thousands of transistors that can be squeezed into a tiny chip of silicon. But there are other components whose sizes have shrunk so dramatically that even more new micro-electronic products are now possible.

The newest of these products are the two clock radios shown on this page. Both have alarms, wake you or put you to sleep to music, and perform basically like those clock radios shown on the next page. These units use micro-capacitors, micro-resistors, micro-tuners and extremely small and efficient speakers whose quality will amaze you.

The units express two different approaches by their respective maufacturers. The Panasonic is ⅝"x 3"x 5" and costs **$99.95** and the Sanyo is 1" 3"x 5" costing **$69.95**.

There are distinct differences in each unit. You would buy the Panasonic if you wanted the thinnest, smallest unit for travel. The Sanyo, however, has a larger time display and has a built-in easel to prop up the unit for desk-top use. The Sanyo also has an LED channel indicator light—a visual device that tells you if you are tuned correctly to the radio frequency. It also uses a new lithium battery for the liquid crystal display which will last for over five years.

If you want a clock radio that takes up very little space on your night table or on your desk and one that would be used regularly, we recommend the Sanyo. If you want one that fits easily in your pocket or is easy to take to sporting events, we would recommend the Panasonic. Both manufacturers offer you a top quality product with AM and FM radios, electronic chirping alarms, night lights to illuminate the time displays, and handsome styling. If one appeals to you, JS&A has these units in stock and can ship them out immediately.

The photo to the left was taken of the Panasonic AM radio version showing the component miniaturization through a clear plastic case. The Panasonic AM only model is **$34.95**, the AM/FM only model is **$69.95**, and the AM/FM clock radio is **$99.95**. Add $2.00 postage and handling. The Panasonic uses two AAA cell batteries and the Sanyo uses three AA cell batteries which come with each unit.

If you really want to impress someone, the radios on this page will make excellent gifts. Order them for your secretary, a college student, your best friend, or anyone you want to surprise. Remember too, if you're not satisfied, JS&A will gladly refund your money within our 30-day trial period. Order your unique clock radio at no obligation today.

Digital Clock Radios

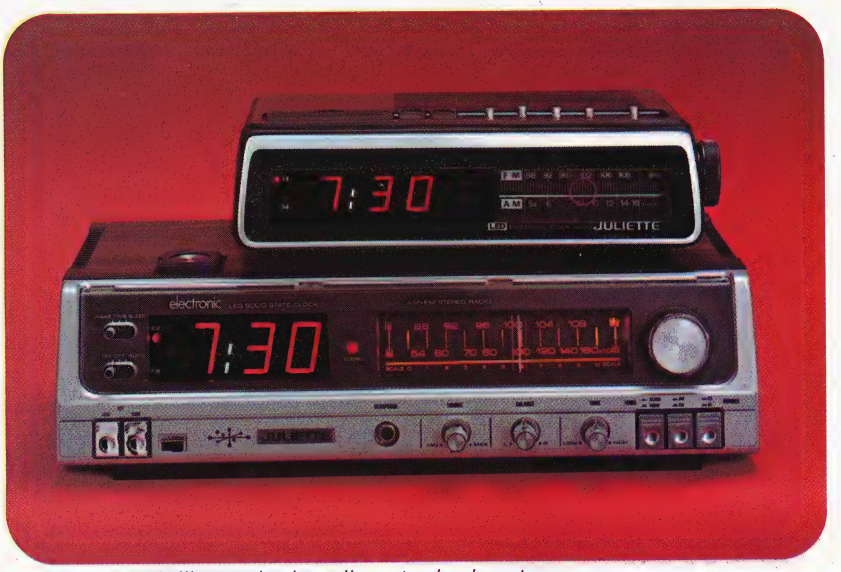
Two clock radios chosen for quality and value.

The conventional clock radio has changed. The older digital models, for example, were mechanical, and you could always hear a click when the time changed. The new models, however, use light-emitting diodes (LED's) and are silent. They also have more features, better sound quality and are more reliable.

Juliette was one of the early pioneers in solid-state digital clock technology and JS&A has selected their line for their outstanding quality and value.

The Juliette model EL1985 measures only 3"x 5½"x 10¼", so it's compact enough to fit almost anywhere. It has a snooze button, fast and slow time set, 3/4 inch LED time display, display dimmer and full AM and FM radio. It's an outstanding value at **$29.95** ($2.00).

The Juliette model EL1990 measures 4"x 6"x 14½" and is their best unit. It is a stereophonic, full-function clock radio having the same features as the model EL1985 but with the addition of full tone and stereo speaker balance controls, a large one inch LED display, and stereo headphone jack. This is an outstanding value at **$69.95** ($3.00).



The two Julliette clock radios stacked on top of each other show their size relationship.

The UT digitals also look quite handsome on a desk and are perfect for executive gift giving.

Digital Alarm Clocks

A quality alarm clock with plenty of beautiful features.

It's a great alarm clock and an incredible value. The UT digital costs only $19.95 yet delivers more features than digital clocks selling for much more. There's a one inch bright and silent LED display. The unit does not have an external AC adapter, so there's no bulky transformer to plug in your wall.

Set the time with just two buttons—one that advances the time quickly to the approximate hour and minute and the second button that slowly sequences to the exact time. You can then set the seconds, hold the seconds to the exact moment, and then start the seconds sequencing when you receive a time signal.

There's an AM and PM indicator, an LED indicator to tell you if your alarm is activated, a handy on/off alarm switch and a convenient snooze button right on top of your unit. The UT digital measures 2"x 4"x 4½", weighs 12 ounces and comes in four colors: White, Black, Red and Yellow. Order several—for friends, business associates or for your home. **$19.95** ($1.75 per order)

Top view of a red UT digital alarm Controls are set under a lift-up panel on top of the alarm.

Crystal Ball Technology

A Game, a gimmick, or a major breakthrough in predicting the future? You be the judge.

As incredible as this may sound, there may be a way to predict the future. But because of the very sensitive implications, we will leave all conclusions to the reader.

American scientists have developed a computer that, together with the science of cycles, an ancient Chinese theory, and the electrical impulses and sensing mechanisms of the human brain, permits you to read your subconscious mind.

The small computer has only two buttons and three lights. But before we describe its uses, you must first understand three basic concepts.

Concept 1: The Science of Cycles

Any student of economics, natural science or the stock market knows that events happen in cycles. Sunspots, weather conditions, the economy, birth rates, wholesale prices, crime and wars—all follow a pattern or cycle.

Concept 2: The Human Brain

The human brain processes data through electrical impulses. This concept was defined by Dr. Norbert Wiener in his 1948 book entitled *Cybernetics*. He stated that the brain handles the electrical impulses using the binary code—the same code used by computers. This theory has since been endorsed by many scientists.

Concept 3: The Chinese Theory

Over 3,000 years ago, the Chinese developed a system of predicting the future through a series of mathematical formulas based on the theory of probability and a series of biological relationships between objects. Called "I Ching," it was more a system of predicting the probability of success than actually predicting the future. In order to understand this system, you must understand three aspects of the I Ching concept: **1)** It uses binary code discovered by the Chinese over 3,000 years ago. **2)** It is based on the scientific theories of probability, and **3)** It is based on relationships commonly found in dreams.

THE DREAM RELATIONSHIPS

When you drop a stone in a pond of water, you create a ripple effect in the water at a specific frequency. If you drop an apple, an orange or an old shoe and by coincidence create the same frequency, you have a relationship between all of these objects even though none of them seems related. The Chinese theory states that there are just such biological relationships in life. Recent psychological studies of dreams have confirmed this.

For example, the theory of I Ching says that a relationship exists between a lake, autumn, wood, the youngest daughter, the mouth and the wind. The Chinese theory further states that all these things have a common frequency or vibration similar to the hypothetical example of the pebble, apple, orange and the old shoe.

In tests performed by leading psychiatrists under controlled conditions, these related objects appeared with startling frequency in the dreams of subjects.

Carl Jung, one of the fathers of modern psychiatry, studied I Ching. Jung's theory and the theory of I Ching state that the various relationships proven to exist in dreams are subconsciously programmed in our brain. And like the pebble and water example, these relationships have their own rhythms and cycles.

YOUR BRAIN DETECTS CYCLES

Our brain cells, according to the theory, detect and register their cycles. The brain then compares our own cycles with those of hundreds of outside cycles at a given time. In the comparison process, our body and mind are subconsciously directed towards conditions helpful to our development and avoid those which are not. The best example of this theory is the survival reaction of animals who can detect an earthquake days before the actual event, something man cannot do with the most sophisticated measuring instruments.

PUTTING IT ALL TOGETHER

The degree to which we are compatible with another person or situation is therefore how our specific set of biological relationships and cycles at a specific moment are in phase with another event, situation or person.

If we are in phase, the theory states, we will achieve success without much effort. If we are out of phase, the theory states that our chances of failure are greater. It does not determine our fate but rather tells us the probability of compatibility with that person or situation at a specific time. If we are told that our compatibility with a situation will be out of phase, we still have an opportunity to work against or adjust to that probability and still achieve success.

THE I CHING SYSTEM

The ancient I Ching system is described in terms of a game in the "Scientific American" cover story of January, 1974. The steps in the game were long and complicated but designed to transfer the subconscious expressions of compatibility to the real and visual symbols needed to interpret these expressions. Sixty-four sticks were used along with enough movement and decisions to let a person's subconscious express itself through physical motions and a binary application to the theory of probability.

So accurate were the results of this process that emperors used it to rule their countries, 250 books were written on its effectiveness, and many leading scientists believe in the theory's validity. Some scientists feel that the I Ching concept was taught to the Chinese from a distant civilization—that no group of scholars 3,000 years ago could have invented it.

There was one drawback to the I Ching system. After you determined the exact combination of sticks, you then had to look in a book of 64 formulas and interpret the relationships and their compatibilities to your specific situation. This required the great scholars of China who understood these relationships and the binary code. There are very few people who can do all this today.

Recently a group of American scientists took the 64 basic formula relationships expressed in binary code and devised a computer that selects the correct formula and translates the results.

WHAT COULD THE I CHING COMPUTER DO FOR YOU?

The great leaders of history were superior people who let intuition guide them and took decisive action, often in the face of unsurmountable odds. We all have the same opportunity of being a superior person by letting ourselves recognize our intuitive or "gut" feelings and then taking action.

Often, just taking action achieves success. All too frequently, people go through life saying "Had I only done something." Indecision is to failure as decision is to success.

The I Ching concept puts us in touch with another dimension of ourselves—that of the superior person inside all of us. It permits us to let intuition or "gut" feelings play a more important role in our decision-making process, and finally, it puts us in touch with ourselves by letting us tune into ourselves.

You make most of your decisions based on available data. With little data, you make decisions based on intuition, so in these situations, the I Ching computer can be like a wise friend.

EASY TO USE

To use the computer, you just press the left button with your thumb. This starts a sequential generator similar to a roulette wheel which scans the 64 basic I Ching formulas.

You concentrate deeply on a goal or question: "Should I invest in the stock market?" "Should I accept the date?" Then you press the button on the right at the exact moment your subconscious tells you to. Each one of the sixty four formulas rotates in exactly 3 milliseconds (three one thousandths of a second), the exact time required for a human to respond to a signal from the brain through the nervous system.

The computer is a small (1½" x 2½" x 3½"), yet very sophisticated system using a double ion implant P-Channel MOS integrated microprocessor-type circuit. It generates and stops at a specific formula and interprets this formula through the binary code and a series of three lights—each with three different color combinations which are then easy to interpret.

You can use it as a helpful decision maker, as a party conversation piece or as a unique gift. We do not wish to make claims as to its effectiveness, but the fact that our company is offering this product is the strongest statement we can make about the computer and the validity of the concept. The system's accuracy will either send chills up your spine or end up as just another conversation piece. Could it be hundreds of years ahead of its time, or is its timing perfect? You can decide.

Your I Ching Computer costs only **$29.95** plus $2.50 for postage and handling. By return mail, you will receive your unit with complete instructions for interpreting the results and a one-year limited warranty. You also have a 30-day trial period. If you are not pleased with your unit, return it for a full refund including your $2.50 postage.

Space-age scientists may have just discovered a way to read your subconscious and determine your probabilities of success through the use of a computer. Order your I Ching computer at no obligation today.

Cooking Computer

A new microwave system promises a better way to cook food.

It's true. Microwave cooking is fast. Incredibly fast. But there are facts you might not know about microwave cooking—some good, some bad.

THE GOOD NEWS

In conventional cooking, vitamins and nutrients are lost during the cooking process. Not so with microwave cooking. Your food is cooked from within. Vegetables, for example, need no water when cooked in a microwave oven. With no water, there's no loss of vitamins and the flavor is locked in.

You can cook on practically anything—paper plates, paper towels, or even the plate you serve your meal on. And what you cook on doesn't get hot—only the food does, so dishes are easier and safer to handle.

There are many more reasons why microwave cooking is the way of the future not only in homes, but also in restaurants and institutions. It saves energy, time, money and gives a new dimension to cooking.

THE DRAWBACK

But microwave cooking also has its drawbacks. Because most microwave systems point their energy in primarily one direction, the food is sometimes cooked unevenly, even in the most sophisticated systems. A common microwave problem has also been magnetron tube failure because of extreme overcooking due to user neglect. And finally, older microwave units have only one power cycle so you have little flexibility.

The Sharp Microwave computer eliminates any problem you could possibly have with a microwave cooking system. First, it contains a turntable that automatically turns as you cook. Your food is evenly cooked from all sides. It's the only system like it available, and it adds a new dimension to your cooking by providing the flexibility of a rotisserie.

The Sharp Microwave computer has a special defrost cycle as well as three cooking cycles—simmer, roast and full power—to meet all your cooking needs.

The electronics in the Sharp are designed so that any user error will not damage the magnetron tube. You can't make a costly mistake. In addition, the tube is built with such high quality that it is warranteed for seven years, plus you have a two-year limited warranty on all other parts.

NATIONAL SERVICE

If anything ever does go wrong, a Sharp serviceman will fix your unit **in your home** during the two year warranty. There are over 200 authorized service centers in the United States to provide this service.

The Sharp Microwave computer system has all the other features of the best of the newest ovens. But most important, Sharp designed these features so that anyone can learn them in just a few short minutes. There are features such as being able to program several cooking cycles each with different cooking times and having your oven automatically complete the entire program. You never have to interrupt the cooking process.

There's a built-in digital clock, a temperature conversion feature that converts Celsius to Fahrenheit or Fahrenheit to Celsius, and a tone that confirms the entry of your cooking programs. With Sharp's new auto start feature, you can put in a roast and program your microwave to begin cooking at a designated time. You can leave home and arrive to a perfectly cooked meal. A temperature probe enables you to cook entirely by temperature. When the desired temperature is reached, your oven turns off automatically. You can't overcook, and there's no guessing on your part. There's even a memory that remembers one of your most frequently used recipes so you just press one button, and your oven remembers everything you taught it.

TAX DEDUCTIBLE

We first tried the Sharp in our own employee kitchen. The difference it made in food quality and employee convenience convinced us of the value of the system. We now offer this product to both homes and businesses on a direct basis.

For your business, it's fully tax deductible as capital equipment. It will encourage employees to stay in your office and eat proper meals, and it will improve their morale and save them time.

The oven has an imitation wood grain finish and looks good wherever you put it. Just plug it in and start cooking—there's no installation, no bother. If you have no counter space, there are many tables designed strictly for microwave ovens. The stainless steel interior is easy to keep clean, and the unit has an interior light that illuminates your food as it rotates and cooks.

We are so convinced of the value and features of the Sharp system that we make this offer. Order the Sharp Microwave computer. With your purchase, we will send you a free 400 page cookbook. Cook in your new microwave those meals that you normally cook in a regular oven. Compare the taste. Compare the time it takes to defrost meat. See how easy it is to cook bacon directly on paper. Watch how quickly frozen foods or leftovers are reheated.

After you've run your tests, then decide if you want to keep your unit. It not, fine. Call our toll-free number, and we'll pick up your unit, at our expense, right at your door. You can keep the cookbook as our gift and we will promptly refund your money.

If you like the unit, great. You'll own the best system available. Just let us know that you are keeping your unit, and we will send you $50 worth of free microwave cookware specifically designed for your new oven. Let this be our gift to you for trusting our judgment in recommending this outstanding product.

Sharp Electronics has sold over two million microwave units to homes and industry, and this latest model is the finest they have ever produced.

Simply call our toll-free number for our low price. The unit weighs only 70 pounds and will be sent via truck (freight charges are collect) for approximately $25 from Northbrook to California and less for areas closer to Illinois. Remember, there is no sales tax required for sales outside Illinois.

Cooking with the space-age convenience of a microwave oven is the wave of the future. Order your microwave cooking computer today and experience a really new way to cook.

Bally
FIREBALL!
PLAYERS
1 2 3 4
SCORE
293250
BALL IN PLAY
1
100
100
Bally

Pinball Computer

Your home, apartment or office can become an action entertainment center with America's first commercial-home pinball machine.

It's you against a computer. And the action and excitement from Fireball, your own computerized pinball machine, is nothing short of spectacular.

Fireball's computer replaces many of the mechanical, scoring, conventional electronics and sensing devices of a standard pinball machine. It's a dramatic change in pinball devices and the start of a new consumer electronics revolution.

DESIGNED FOR ACTION

Fireball contains flippers, bumpers, thumpers, flashing lights, sounds and a full-sized playfield. The glass covering the playfield is safe, shatterproof and specially tempered.

From one to four players can compete. Turn the unit on, and program the computer with the number of players by simply pressing the start button up to four times. Each player's score is kept separately in a memory and appears on the display for each player's turn and at the end of the game.

The ball is automatically ejected, and you pull the plunger to project it into action. The ball bounces from side to side from bumper to thumper. Lights flash and the scoring begins. You use the separately controlled flippers by pressing the flipper controls on the sides of the playfield. The flippers are low enough so that even a five year old can reach them.

Flip a switch and Fireball can be programmed for beginner or advanced skills, although pinball is the only game everybody knows how to play within seconds after stepping up to a machine.

"WE'RE IN THE MONEY"

The thrill of winning a bonus score or an extra ball is enhanced by Fireball's songs and scoring tones. The computer's synthesizer plays seven songs—everything from "We're in the Money" when an extra ball is awarded to "The Party's Over" when the game ends. Various scores sound five additional tones making the game a total sight and sound experience. A volume control lets you keep it loud at a party or turned down in quieter surroundings.

COMMERCIAL PARTS AND FEATURES

Fireball contains the same heavy-duty devices and scoring features as a commercial pinball machine. The game has a tilt feature—tilt Fireball and a tilt sign glows and the scoring stops. The full-sized, full-color commercial playfield even has a special friction silk-screened surface so the ball will roll and not slide. Fireball differs from an arcade unit by its electronics and by the start button which has replaced the coin slot. In fact, all future commercial machines will resemble Fireball within a year.

MANY NEW FEATURES

Fireball's computer is as powerful as a million dollar IBM computer sold in 1964. The solid-state LED scoreboard replaces the old electro-mechanical pinball scoring wheels, so Fireball's backboard is thinner and its scoring more reliable. Its memory not only keeps track of everybody's score, but it records the exact playfield configuration and extra bonus balls—something present arcade games can't do.

Although the playfield is just as large as the commercial machine's, the entire unit has less weight, less bulk, and practically no service requirements, making it ideal for the home or office. It takes up a space 2 feet by 4 feet and weighs 160 pounds.

HOW TO JUSTIFY PINBALL (TAKE THIS TEST)

If you paid more than $600 for either your TV set, stereo system or pool table, you should consider a pinball machine. You'll have more fun and see more action than watching TV, listening to your stereo or playing pool.

And when guests pop in, your Fireball will be the talk and highlight of their visit. Your TV and stereo are used primarily for private viewing or listening. Your pinball machine is for all times—from your personal family enjoyment to big parties. It's the great new idea in home entertainment.

TAX DEDUCTIBLE

Consider Fireball for your office as either an executive toy or a free new benefit for your office or factory employees during their breaks. You get both an investment tax credit and depreciation allowance. Fireball combines participation, action and entertainment. A pinball machine is so intriguing that people pour dollars into them at arcades. It requires skill, sharpens responses and can become the single most talked about entertainment product in your home or office.

LASTING PLAY VALUE

Fireball, unlike the new TV games, is partially a game of chance and thus can never be mastered. Even an experienced professional can lose to a youngster. A daughter can beat her father, grandma can beat grandpa, and the surprise of an upset is what adds to the long-lasting play value. A professional pinball machine is an amusement game that you rarely get tired of—no matter how good you get, no matter how long you've played. Ask any arcade operator. His customers will tire of his video games which he continually rotates with newer models, but his pinball machines are played and played and played.

Don't be confused. There are other games made by toy designers selling for one half the price. Fireball is not a toy and is built by a company that specializes in pinball machines. With all its sophistication, it is the most service-free, quality pinball machine ever produced.

When you buy an expensive product, you must be absolutely satisfied that you get good service and a solid company standing behind your purchase for many years to come. Fireball is backed by a substantial company, Bally—in business since 1931 and now the world's largest manufacturer of coin-operated amusement games. JS&A is America's largest single source of space-age consumer products and also a substantial company—further assurances that your investment is well protected.

A FRANK DISCUSSION OF SERVICE

Fireball is a solid-state computer with its electronics condensed on integrated circuits—all hermetically sealed and all pre-tested for a lifetime of service. Fireball is also self-diagnostic. Let us say something goes wrong with the system. Simply press the test button on the back panel of your machine, and the exact problem is displayed on your scoreboard in digits. Check the instruction booklet and simply remove the designated plug-in circuit board, light bulb or part, and send it to the service department closest to you for a brand new replacement. Even your TV or stereo isn't that easy to repair.

Please don't think service requirements are common. They're not. But we wanted to assure you that service was such an important consideration in its design that Fireball practically repairs itself. And any defective component will be replaced free-of-charge during its one year limited warranty.

SHIPPING AND THE TRIAL PERIOD

Each Fireball comes in two sections with four metal legs. The two sections quickly bolt together with the top portion also plugging into the bottom to make all electrical connections. Within minutes after it arrives, your unit is ready to operate.

Attach the metal legs, plug it in and start playing. Don't even read the instructions on how to play it—you should know how within minutes. Then after you've played Fireball for awhile, go to your local arcade and play a standard $1500 pinball machine. It's only then that you'll realize how much more value you are getting with Fireball.

But let's be realistic. What if you don't like what you get? Simple. Call JS&A's toll-free number, and we'll arrange for the pick-up of your unit. We'll pay all the pick-up and return costs. And you can play Fireball for one month before you make up your mind.

A GUARANTEE OF SATISFACTION

The cost for your own pinball machine is $650 (Illinois residents add $32.50 sales tax) plus the freight which you pay upon receipt and which will run approximately $34 from our facilities in Northbrook to Los Angeles or less if you live closer. Order your unit and we will then promptly ship it and advise you.

We back Fireball with an outstanding service program made possible by plug-in commercial components. We provide the opportunity to use Fireball for one month without obligation and if 1) it does not live up to every one of your expectations 2) for any reason you get tired of playing it, or 3) you don't find it more challenging after one month than when you first played it, give us a call and we'll pick it up at your door at our expense and refund your money. We provide fast turnaround time should service ever be required, and we have been in business for over a decade providing the same conscientious service that has built our company into America's largest single source of space-age products.

Why not let the fun and action of your very own pinball machine add to your home or office entertainment picture? We'll make just trying Fireball the best entertainment move you've ever made. Order one at no obligation today.

Button-free Micro Recorder

A new micro recorder that turns on at the sound of your voice may revolutionize the entire personal recording industry.

The idea is simple yet the results are very dramatic. Olympus, the famous precision camera company, has developed the world's first voice-activated micro cassette recorder—the Olympus SD.

RECORD WITHOUT BUTTONS

The unit has an optional voice activation switch (VA switch) that automatically turns on your recorder at the sound of your voice. If you dictate in your car or in your office, just talk to your unit. It does the rest. It will turn on to record your comments and turn off when you stop talking.

The VA switch has a three-position sensitivity control. You can set it for low sensitivity while driving your car so only the close proximity of your voice will turn it on. In the middle sensitivity position, you could use the unit in conferences or for dictation in your office. In the high sensitivity position, the unit records all sounds.

The VA switch has other advantages. It makes your tapes more efficient by making them last longer since your unit turns off during long pauses. So the unit's sixty minute tapes might be the equivalent of seventy or eighty minutes on other systems.

ACCESSORY MODULES

The VA switch is one of a series of small modules that plug into the bottom of the SD, thus expanding the recording system. These modules include an AM or FM radio module that plays music and news directly into your unit, a power amplifier and speaker that play back your tapes with high fidelity for conferences or personal music enjoyment, a telephone pick up that will record both sides of a phone conversation and a clip-on microphone for conferences or speeches. There are also separate transcribers, foot pedals and headsets available for your secretaries.

MOTOR DRIVE BREAKTHROUGH

The Olympus SD has several new recording breakthroughs. The first is the new coreless motor. Conventional motors require a wire-wound long, solid core. In the Olympus coreless motor, the windings are on the outside or stationary part of the motor making it flatter, yet it has greater initial torque and more consistent speed than any conventional unit. Because of the coreless design, the entire SD unit is lighter, flatter, and easier to carry. There is less vibration, noise and power consumption so your batteries last longer and your recordings sound cleaner.

RECORDING HEAD QUALITY

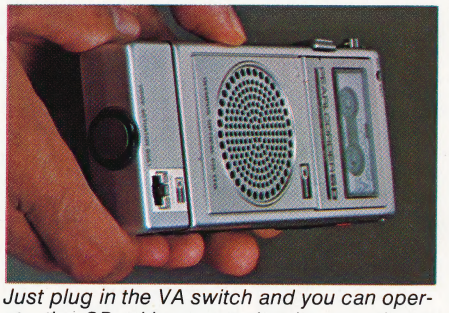
The unit uses ferrite for its recording heads—the same material used in precision studio recorders. This extremely hard, diamond-like material will never wear out and prevents oxide build-up on the heads. You have top recording quality without wear.

NEW MICROPHONE TECHNOLOGY

The new built-in electret condenser microphone with automatic level control is also a major design advance. Through new electronic circuitry, the impedance of the microphone remains constant, thus passing on the natural sound quality of all frequencies without distortion. The result is a clear recording with an extremely low signal-to-noise-ratio so you won't hear objectionable background hissing or humming.

VERY RUGGED UNIT

With all its quality and breakthrough features, the Olympus did not lose touch with reality—namely, that personal recorders get dropped, stepped on and damaged. Even if you're careful, there's always a chance you may drop or damage your unit.



Just plug in the VA switch and you can operate the SD without pressing its record and pause controls. The basic unit measures only 1"x 2½"x 5½" and the VA switch adds another inch to its length.

The Olympus SD was built with both special cushioning features and component design that permit you to literally abuse your unit while still maintaining the same recording quality. The most sensitive component has always been the motor. If a conventional unit is dropped, even a slight motor core misalignment will noticeably affect performance. With the Olympus SD motor, there is no core, so core misalignment is impossible. Olympus also maintains a prompt service-by-mail facility if service should ever be required. Just slip your 12 ounce recorder in its handy mailer and it's on its way. Service should never be required, but it's always good to know that your unit is solidly backed by a responsible service organization.

AUTO SHUT-OFF

Some units have automatic shut-off at the end of a cassette during the record mode. So does the SD. But the SD also has this feature on playback, thus preventing tape stretching and battery waste. And when the unit does shut off, it's practically silent and does not attract attention.

QUALITY FEATURES

The tape is capstan driven—the best drive available in cassette recorders. It can play eleven hours on a set of two penlight batteries, and optional rechargeable batteries are also available. The Olympus sixty minute cassette (30 minutes per side) costs only $2.99 compared to $4.99 and $5.99 for other brands. This gives you the lowest cost-per-minute recording of any system available.

JS&A offers you the most important breakthrough product in micro-cassette recording. Olympus' voice activation switch, its new coreless motor, ferrite tape heads and electret microphone mean quality, value and advanced technology—years ahead of all others. And the price of the Olympus SD is actually less than many of today's more popular brands that do not yet have the SD's innovations.

Olympus is the company that invented the micro-recorder in 1969. Since then, they have licensed dozens of other companies to produce them—yet no unit compares with the Olympus. JS&A is America's largest single source of space-age products and a company that has brought to market the most advanced new products of this decade. We feel the SD is one of them.

But don't take our word for it. We suggest you order just the Olympus SD and the VA switch. Then use the system for thirty days. Take it with you to work, keep it in your pocket when you travel, and use it to dictate your notes. Compare the Olympus to every other unit on the market, and read all the consumer reports on recording devices. Then after thirty days, decide whether or not the Olympus will quickly pay for itself in convenience and in actual time savings. If not, then return your unit for a prompt and courteous refund. If you decide to keep the SD, you will positively own the best personal recorder sold today at any price. Then you can order any of the additional accessories available with the system from our inventory. Remember, there is no obligation, no postage and handling, and you take absolutely no risk.

To order your unit and VA switch send **$269.90** ($2.50) or use your credit card to order toll-free. By return mail we will send you your Olympus SD, VA switch and a one year limited warranty. Or you may order any of the other items listed below.

The Olympus SD with its VA switch represents a major new innovation in personal recording—the voice-activated recorder. Order one at no obligation today.

Olympus SD with one tape	**$239.95**
VA switch alone	**29.95**
Box of 12 tapes ;$2.99 ea	**35.88**
Transcriber and accessories	**249.95**

(accessory list sent with unit)

TRAVEL LIGHTER THAN EVER

Helium Luggage

Here's the true story of how a new luggage system was invented that makes travel much lighter than you've ever experienced.

Look at the strap on the outside of the bag. When gripped, it removes about 50% of the weight off the shoulder and makes the system even easier to carry.

By Arnold Wasserman

I'm an industrial designer and I travel a great deal. If you travel, I urge you to read my story.

About three years ago, after I had three slipped discs, I was told not to carry a heavy suitcase. And there was nothing in luggage stores that was light enough or easy enough to carry that would not hurt my back.

I first tried a back pack, then a soft case, and even an aluminum case. Each had its advantages, but none solved my back problem. The back pack would wrinkle my clothes and make me look like a hippie, and a suitcase tilted me to one side putting pressure on my spine.

I was reading a medical report on bad backs and saw a diagram that clearly showed me why none of the suitcases seemed to work. It showed that the ideal way for a person to carry weight is close to the body's center of gravity.

The logical place to carry a suitcase was against my side or curved around my body. So I made a slightly contoured body case with a shoulder strap so it would stay under my arm, close to my body and be easy to carry. The heavier the load I carried, the closer to the center of my body it went. I found that the system not only felt lighter, but it left my hands free to hold my tickets and sign credit card vouchers. But that was three years ago. And that first model (I still have it) was about four times heavier and not as unique as the one I finally invented, patented and am now bringing to market. Just listen to what I've done.

TIRES AND GYM SHOES

First, I selected a material that was used strictly for tires and gym shoes called Dupont Cordura nylon. Cordura withstands abuse and has tremendous strength for its light weight.

Then I designed a modular system for two reasons. First, I realized that all my trips were different. So I developed three totally different cases, any two of which could attach together and then fit nicely under my arm. I designed the cases so that I could easily live out of their neatly organized compartments in almost any travel situation.

These are close-up shots of the Day Pac in blue and tan. Both colors are available.

The second reason for the modular system was to save time. Have you ever stepped off a one-hour flight only to wait a half hour for your luggage or, even worse, discover your suitcase never made it? By using a modular system, I could unsnap my two modules and put one under my seat and the other in the overhead compartment. When my flight landed, I was often at my hotel while the other passengers were just getting their luggage.

I thought I had invented the ultimate system. It was modular, attractive, a carry-on system, and it was positioned close to a human's center of gravity—perfect for men or women with or without back problems.

I told you how advanced Dupont's Cordura was, but I also continued to design quality into the entire system. The zipper is a YKK nylon zipper—the same used on top quality sports equipment and marine gear. The seams are double stitched with special nylon thread. The stress points are reinforced with real cowhide and extra nylon. The Cordura is coated with a special urethane epoxy that makes it permanently water resistant. Even the plastic speed buckles I use for attaching two cases together are military rated for 250 pound tests and are the same ones used on US coast guard flotation devices.

THE HAMMER TEST

I used a flexible side stiffener to protect the contents and give my case structural stability. The soft front and back panels expand slightly so you can really pack the case full.

The stiffener itself is an extremely rugged plastic whose exact name I would rather not disclose. Why? Because if you take a piece of ordinary plastic, freeze it and then hit it with a hammer, it will splatter like glass. And the way luggage is handled, I never wanted that to happen. So I froze and smashed hundreds of pieces of plastic for two years before I found the type of plastic that won't shatter under even the most severe handling conditions. And quite frankly, I wouldn't want any other luggage maker to take advantage of my research.

Then came the surprise. I had put in so much quality and made my product so unique that very few stores would carry it. Nobody wanted to deal with me. I was too small a company, and my system was too unusual.

Yet I was getting reports from all those who bought the system—even the earlier versions—telling me that it was the best idea they had ever seen. I was getting fan mail—something that's never happened to me before.

There's one company whose advertisements I especially admired called JS&A. I told them my story, and when they picked up my case, their first question was whether there was helium in the cases. They had never held a piece of luggage so light. They were so impressed with my product that they asked if they could call it Helium luggage and offer it nationally if I would write, in my own words, the story I had just told them. And that's my story.

My system comes in three different cases for three different travel situations. The Day Pac contains a brief case for everything from papers to record albums. It has an overnighter for clothes, contains a toilet kit and measures 5" x 13" x 14".

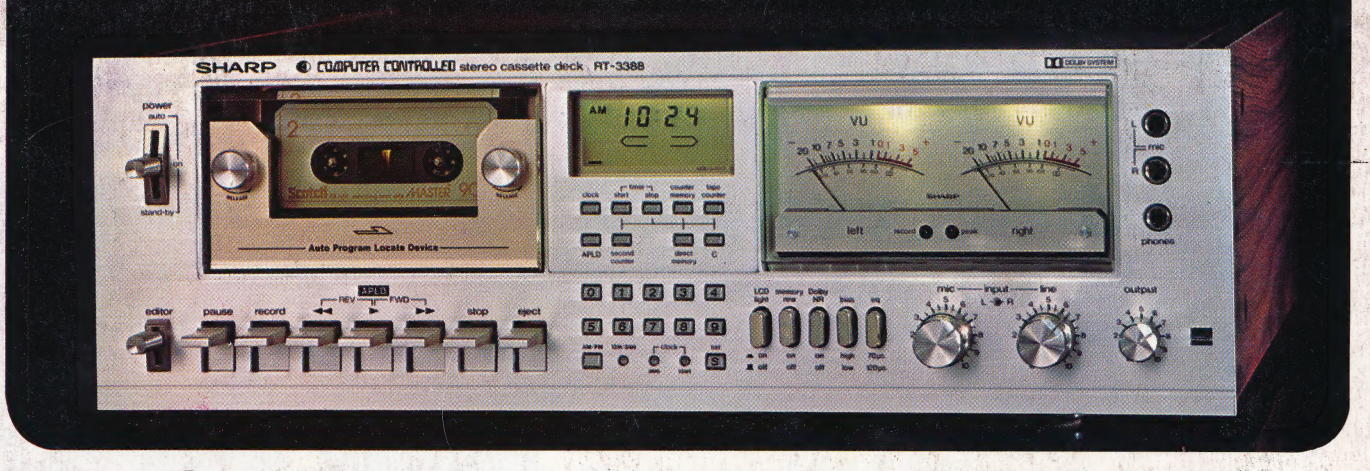
The Week Pac has within it a shoe pack, a shirt pack and a laundry pack and takes all the toilet articles and clothes you'll need for a full week with the exception of a suit. It measures only 6" x 13" x 22".

The Suit Pac takes a jacket, vest, ties, and four pairs of pants—all wrinkle-free—plus other items. It is also ideal for a woman's weekend wardrobe and is 4" x 13" x 22".

I've asked JS&A to offer you a 30-day travel test. Order any one or combination of my cases. Travel with them and live out of them for 30 days. See personally how easy they are to carry, how they resist scuffing, how easily they pack and how neatly they slip under your seat. One month later, make your decision. If you see how much easier it makes travelling and realize savings in time and aggravation, then keep it. If you don't, I insist that you return it, and JS&A will return your money plus your $3.00 postage and handling. If you wish to order by credit card, call JS&A's toll-free number or send your check for the amount indicated below. I also give a limited warranty on my luggage for one full year. I hope you'll at least give my system a try. I know you'll be pleased.

Day Pac	**$63.95**
Week Pac	**97.95**
Suit Pac	**97.95**
Total System (Special Price)	**249.95**
Postage per order	**3.00**

(specify blue or tan)



Program your selections and play them with outstanding fidelity with the world's first Computerized Cassette Tape Deck.

Computer Cassette Tape Deck

Is it ever neat! The new Sharp tape deck is a micro-processor-controlled system that replaces some of the previous manual tape selection functions. Its sound quality, its design and its appearance far exceed any other similar system. Here are some of its features:

1) A liquid crystal clock constantly displays the time even during power outages.

2) A programming function lets you schedule the time of day you wish your unit to turn on and off.

3) A Dolby noise reduction system boosts certain parts of the high frequency spectrum during recording and then de-emphasizes them during playback to reduce tape noise and hiss and enhance any recording.

4) Separate bias and equalizer tape selector switches are provided so that you can set the deck for optimum sensitivity, minimum distortion and wide frequency response for any kind of tape.

5) A hard permalloy head adds to wide frequency response and outstanding phase accuracy.

The tape counter is also solid-state with the tape position shown on the LCD display. Using the tape counter, you can program the tape selections by position or by selection number.

The quality and features of the new Sharp micro-processor-based system are extensive and another example of how micro-electronics have changed and improved product design. The cost of the tape deck complete with one year warranty is **$349.95** ($4.00).

JS&A® NATIONAL SALES GROUP

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